STIC-Biotech/ChemLib 68/140

From: McGarry, Sean
Sent: Wednesday, June 05, 2002 1:11 PM
To: STIC-Biotech/ChemLib
Subject: Sequence Search 09/599,220

Please,

For 09/599,220, a length limited search of SEQ ID NO: 1 and 2 (nucleotides < 50). Please do not search ESTs.

Thank You
Sean McGarry
AU 1635
Mailbox CM1 11E12
Office CM1 11D07
305-7028

Point of Contact:
Barb O'Bryen
Technical Information Specialist
STIC CM1 6A05 308-4291

Searcher: BOB
Phone: _____
Location: _____
Date Picked Up: _____
Date Completed: 6-7-02
Searcher Prep/Review: _____
Clerical: _____
Online time: _____

TYPE OF SEARCH:
NA Sequences: _____
AA Sequences: _____
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST(where applic.)
STN: _____
DIALOG: _____
Questel/Orbit: _____
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GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 6, 2002, 16:03:19 ; Search time 1796.86 Seconds
(without alignments)
337.739 Million cell updates/sec

Title: US-09-599-220-2
Perfect score: 29
Sequence: 1 agtccgtggtagggcaggttggggtgact 29

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 1797656 seqs, 10463268293 residues

Total number of hits satisfying chosen parameters: 708260

Minimum DB seq length: 0
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	29	100.0	38	6	AR125937	AR125937 Sequence
2	29	100.0	38	6	I24304	I24304 Sequence 91
3	29	100.0	38	6	I49650	I49650 Sequence 2
4	29	100.0	38	6	I56644	I56644 Sequence 2
5	29	100.0	39	6	AR140900	AR140900 Sequence
6	29	100.0	39	6	AR150850	AR150850 Sequence
7	29	100.0	39	6	I65730	I65730 Sequence 90
8	29	100.0	39	6	I67962	I67962 Sequence 90
9	29	100.0	39	6	I90181	I90181 Sequence 88
10	19.8	68.3	30	6	AR125877	AR125877 Sequence
11	19.8	68.3	30	6	I24244	I24244 Sequence 31
12	19.4	66.9	30	6	AR125890	AR125890 Sequence
13	19.4	66.9	30	6	I24257	I24257 Sequence 44
14	19	65.5	30	6	AR125893	AR125893 Sequence
15	19	65.5	30	6	I24260	I24260 Sequence 47
16	18.8	64.8	30	6	AR125875	AR125875 Sequence
17	18.8	64.8	30	6	I24242	I24242 Sequence 29
c 18	17.4	60.0	47	6	AX194776	AX194776 Sequence
19	17.2	59.3	30	6	AR125881	AR125881 Sequence
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c 21	17	58.6	47	6	AX194777	AX194777 Sequence
22	16	55.2	30	6	AR125889	AR125889 Sequence
23	16	55.2	30	6	I24256	I24256 Sequence 43
24	15.8	54.5	30	6	AR125878	AR125878 Sequence
25	15.8	54.5	30	6	I24245	I24245 Sequence 32
c 26	15.8	54.5	50	6	AX236815	AX236815 Sequence
c 27	15	51.7	50	6	AX159200	AX159200 Sequence
28	14.8	51.0	29	6	I15689	I15689 Sequence 3
c 29	14.8	51.0	30	6	I11736	I11736 Sequence 7
c 30	14.8	51.0	37	6	E29444	E29444 Oligonucleo
c 31	14.6	50.3	21	6	A59112	A59112 Sequence 4
c 32	14.6	50.3	21	6	AR073593	AR073593 Sequence
c 33	14.6	50.3	25	6	A59172	A59172 Sequence 64
c 34	14.6	50.3	25	6	AR073653	AR073653 Sequence
35	14.6	50.3	38	6	AR168778	AR168778 Sequence
36	14.6	50.3	38	6	I27772	I27772 Sequence 4
c 37	14.4	49.7	21	6	AX096640	AX096640 Sequence
38	14.4	49.7	30	6	I00071	I00071 Sequence 3
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c 44	14.2	49.0	50	6	AX190214	AX190214 Sequence
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ALIGNMENTS

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LOCUS AR125937 38 bp DNA linear PAT 16-MAY-2001
DEFINITION Sequence 279 from patent US 6177557.
ACCESSION AR125937
VERSION AR125937.1 GI:14111999
KEYWORDS .
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.
REFERENCE 1 (bases 1 to 38)
AUTHORS Janjic,N., Gold,L. and Tasset,D.
TITLE High affinity ligands of basic fibroblast growth factor and thrombin
JOURNAL Patent: US 6177557-A 279 23-JAN-2001;
FEATURES Location/Qualifiers
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DEFINITION  Sequence 91 from patent US 5543293.
ACCESSION   I24304
VERSION     I24304.1  GI:1604174
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 38)
  AUTHORS   Gold,L. and Tasset,D.
  TITLE     DNA ligands of thrombin
  JOURNAL   Patent: US 5543293-A 91 06-AUG-1996;
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Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


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LOCUS       I49650                    38 bp    DNA     linear   PAT 07-OCT-1997
DEFINITION  Sequence 2 from patent US 5641629.
ACCESSION   I49650
VERSION     I49650.1  GI:2471870
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 38)
  AUTHORS   Pitner,J.B., Malinowski,D.P., Vonk,G.P. and Gold,L.
  TITLE     Spectroscopically detectable nucleic acid ligands
  JOURNAL   Patent: US 5641629-A 2 24-JUN-1997;
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BASE COUNT        6 a      6 c     17 g      9 t
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Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   4
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LOCUS       I56644                    38 bp    DNA     linear   PAT 07-OCT-1997
DEFINITION  Sequence 2 from patent US 5650275.
ACCESSION   I56644
VERSION     I56644.1  GI:2477057
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 38)
  AUTHORS   Pitner,J.Bruce., Malinowski,D.P., Vonk,G.P. and Gold,L.
  TITLE     Target detection method using spectroscopically detectable nucleic
            acid ligands
  JOURNAL   Patent: US 5650275-A 2 22-JUL-1997;
FEATURES             Location/Qualifiers
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RESULT   5
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DEFINITION  Sequence 177 from patent US 6207816.
ACCESSION   AR140900
VERSION     AR140900.1  GI:14483396
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 39)
  AUTHORS   Gold,L., Janjic,N. and Pagratis,N.
  TITLE     High affinity oligonucleotide ligands to growth factors
  JOURNAL   Patent: US 6207816-A 177 27-MAR-2001;
FEATURES             Location/Qualifiers
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RESULT   6
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LOCUS       AR150850                  39 bp    DNA     linear   PAT 08-AUG-2001
DEFINITION  Sequence 88 from patent US 6229002.
ACCESSION   AR150850
VERSION     AR150850.1  GI:15115441
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 39)
  AUTHORS   Janjic,N. and Gold,L.
  TITLE     Platelet derived growth factor (PDGF) nucleic acid ligand complexes
  JOURNAL   Patent: US 6229002-A 88 08-MAY-2001;
FEATURES             Location/Qualifiers
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RESULT   7
I65730
LOCUS       I65730                    39 bp    DNA     linear   PAT 07-OCT-1997
DEFINITION  Sequence 90 from patent US 5668264.
ACCESSION   I65730
VERSION     I65730.1  GI:2482300
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 39)
  AUTHORS   Janjic,N. and Gold,L.
  TITLE     High affinity PDGF nucleic acid ligands
  JOURNAL   Patent: US 5668264-A 90 16-SEP-1997;
FEATURES             Location/Qualifiers
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RESULT   8
I67962
LOCUS       I67962                    39 bp    DNA     linear   PAT 04-FEB-1998
DEFINITION  Sequence 90 from patent US 5674685.
ACCESSION   I67962
VERSION     I67962.1  GI:2830084
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
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REFERENCE   1  (bases 1 to 39)
  AUTHORS   Janjic,N. and Gold,L.
  TITLE     High affinity PDGF nucleic acid ligands
  JOURNAL   Patent: US 5674685-A 90 07-OCT-1997;
FEATURES             Location/Qualifiers
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Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   9
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LOCUS       I90181                    39 bp    DNA     linear   PAT 10-AUG-1998
DEFINITION  Sequence 88 from patent US 5723594.
ACCESSION   I90181
VERSION     I90181.1  GI:3410121
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 39)
  AUTHORS   Janjic,N. and Gold,L.
  TITLE     High affinity PDGF nucleic acid ligands
  JOURNAL   Patent: US 5723594-A 88 03-MAR-1998;
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Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT  10
AR125877
LOCUS       AR125877                  30 bp    DNA     linear   PAT 16-MAY-2001
DEFINITION  Sequence 219 from patent US 6177557.
ACCESSION   AR125877
VERSION     AR125877.1  GI:14111939
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
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REFERENCE   1  (bases 1 to 30)
  AUTHORS   Janjic,N., Gold,L. and Tasset,D.
  TITLE     High affinity ligands of basic fibroblast growth factor and
            thrombin
  JOURNAL   Patent: US 6177557-A 219 23-JAN-2001;
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RESULT  11
I24244
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DEFINITION  Sequence 31 from patent US 5543293.
ACCESSION   I24244
VERSION     I24244.1  GI:1604114
KEYWORDS    .
SOURCE      Unknown.
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REFERENCE   1  (bases 1 to 30)
  AUTHORS   Gold,L. and Tasset,D.
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  TITLE     DNA ligands of thrombin
  JOURNAL   Patent: US 5543293-A 31 06-AUG-1996;
FEATURES             Location/Qualifiers
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RESULT  12
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DEFINITION  Sequence 232 from patent US 6177557.
ACCESSION   AR125890
VERSION     AR125890.1  GI:14111952
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 30)
  AUTHORS   Janjic,N., Gold,L. and Tasset,D.
  TITLE     High affinity ligands of basic fibroblast growth factor and
            thrombin
  JOURNAL   Patent: US 6177557-A 232 23-JAN-2001;
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RESULT  13
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LOCUS       I24257                    30 bp    DNA     linear   PAT 07-OCT-1996
DEFINITION  Sequence 44 from patent US 5543293.
ACCESSION   I24257
VERSION     I24257.1  GI:1604127
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 30)
  AUTHORS   Gold,L. and Tasset,D.
  TITLE     DNA ligands of thrombin
  JOURNAL   Patent: US 5543293-A 44 06-AUG-1996;
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VERSION     AR125893.1  GI:14111955
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
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REFERENCE   1  (bases 1 to 30)
  AUTHORS   Janjic,N., Gold,L. and Tasset,D.
  TITLE     High affinity ligands of basic fibroblast growth factor and
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  JOURNAL   Patent: US 6177557-A 235 23-JAN-2001;
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ACCESSION   I24260
VERSION     I24260.1  GI:1604130
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
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REFERENCE   1  (bases 1 to 30)
  AUTHORS   Gold,L. and Tasset,D.
  TITLE     DNA ligands of thrombin
  JOURNAL   Patent: US 5543293-A 47 06-AUG-1996;
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Db      4 TGCGTGGTAGGGTAGGTTGGTGTCATT 30


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Job time: 1822 sec
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GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 6, 2002, 16:08:47 ; Search time 234.25 Seconds
(without alignments)
212.553 Million cell updates/sec

Title: US-09-599-220-2
Perfect score: 29
Sequence: 1 agtccgtggtagggcaggttggggtgact 29

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Gapop 10.0 , Gapext 1.0

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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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22: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
23: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2001B.DAT:*
24: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Result No.	Score	% Query Match	Length	DB	ID	Description
	1	29	100.0	29	22	AAC91745	Thrombin-binding a
	2	29	100.0	37	24	AAS16530	Thrombin specific,
	3	29	100.0	37	24	AAS16540	Thrombin specific,
	4	29	100.0	38	16	AAQ98404	Truncated SELEX de
	5	29	100.0	38	17	AAT86654	Spectroscopically
	6	29	100.0	38	17	AAT38802	Thrombin ligand fo
	7	29	100.0	38	18	AAT85812	Thrombin-binding n
	8	29	100.0	38	18	AAT80049	Thrombin binding l
	9	29	100.0	38	22	AAF70817	Thrombin high affi
	10	29	100.0	39	20	AAX87088	DNA ligand T39 to
	11	29	100.0	42	24	AAS16539	Thrombin specific,
	12	29	100.0	43	24	AAS16537	Thrombin specific,
	13	19.8	68.3	30	16	AAT00205	Thrombin DNA ligan
	14	19.8	68.3	30	22	AAF70757	Thrombin high affi
	15	19.4	66.9	30	16	AAT00218	Thrombin DNA ligan
	16	19.4	66.9	30	22	AAF70770	Thrombin high affi
	17	19	65.5	30	16	AAT00221	Thrombin DNA ligan
	18	19	65.5	30	22	AAF70773	Thrombin high affi
	19	18.8	64.8	30	16	AAT00203	Thrombin DNA ligan
	20	18.8	64.8	30	22	AAF70755	Thrombin high affi
c	21	17.4	60.0	47	23	AAH88406	CNS disorder-relat
	22	17.2	59.3	30	16	AAT00209	Thrombin DNA ligan
	23	17.2	59.3	30	22	AAF70761	Thrombin high affi
c	24	17	58.6	47	23	AAH88407	CNS disorder-relat
c	25	16.4	56.6	50	22	AAL31191	Human SNP oligonuc
	26	16	55.2	30	16	AAT00217	Thrombin DNA ligan
	27	16	55.2	30	22	AAF70769	Thrombin high affi
	28	15.8	54.5	30	16	AAT00206	Thrombin DNA ligan
	29	15.8	54.5	30	22	AAF70758	Thrombin high affi
c	30	15.8	54.5	50	22	AAS44248	Neisseria meningit
	31	15	51.7	32	24	AAS16529	Thrombin specific,
	32	15	51.7	35	24	AAS16535	Thrombin specific,
	33	15	51.7	38	24	AAS16532	Thrombin specific,
	34	15	51.7	38	24	AAS16534	Thrombin specific,
c	35	15	51.7	50	22	AAI75587	Human silent SNP c
c	36	14.8	51.0	30	14	AAQ41753	CFTR 5' phosphoryl
c	37	14.8	51.0	37	21	AAZ56511	Human vitamin D re
	38	14.8	51.0	50	22	AAL30621	Human SNP oligonuc
	39	14.8	51.0	50	22	AAL30622	Human SNP oligonuc
	40	14.6	50.3	36	11	AAQ04971	Sequence binding t
	41	14.6	50.3	36	14	AAQ36224	Oligonucleotide ta
	42	14.6	50.3	37	11	AAQ04970	Sequence binding t
	43	14.6	50.3	37	14	AAQ36223	Oligonucleotide ta
	44	14.6	50.3	38	15	AAQ79204	Guanosine rich oli
	45	14.6	50.3	38	18	AAT51622	Viral integrase in

ALIGNMENTS

RESULT 1
AAC91745
ID AAC91745 standard; DNA; 29 BP.
XX
AC AAC91745;
XX
DT 27-MAR-2001 (first entry)
XX
DE Thrombin-binding aptamer, ODN 2.
XX
KW Thrombin-binding aptamer; exosite 2; heparin binding site;
KW blood clot; anticoagulant; in vivo imaging; diagnostic tool;
KW protein quantitation; in vivo half-life; ss.
XX
OS Synthetic.
XX
PN WO200078364-A2.
XX
PD 28-DEC-2000.
XX
PF 22-JUN-2000; 2000WO-CA00751.
XX
PR 22-JUN-1999; 99US-0139896.
XX
PA (UYAL-) UNIV ALBERTA SIMON FRASER.
XX
PI Dougan AH, Weitz JI;
XX
DR WPI; 2001-091498/10.
XX
PT Novel composition for inhibiting and preventing blood coagulation and
PT for imaging blood clots in vivo, comprises a nucleic acid that binds to

```
PT   blood clot and complexed at its 5' or 3' end or both with a protein -
XX
PS   Example 1; Page 5; 49pp; English.
XX
CC   The invention relates to a composition comprising an aptamer which
CC   binds to a blood clot or to a protein component of a mammalian blood
CC   coagulation cascade, and a protein (other than the target protein)
CC   complexed with either or both the 5' and 3' ends of the aptamer. The
CC   proteins used in the composition can be covalently or non-covalently
CC   bound to the aptamer termini, and serve to extend the in vivo half-life
CC   of the aptamer. The aptamer/protein complexes of the invention are used
CC   to inhibit and prevent the coagulation of blood in a patient requiring
CC   anticoagulation treatment. Complexes may also be radiolabelled and used
CC   to image blood clots in vivo. The complexes can additionally be used to
CC   detect and quantitate the amount of a target protein in a sample to
CC   provide a diagnosis of a disease state that is correlated with the amount
CC   of protein in the sample. The present sequence represents an aptamer
CC   which binds to the heparin binding site (exosite 2) of human thrombin
CC   which was used in an exemplification of the invention.
XX
SQ   Sequence 29 BP; 4 A; 4 C; 14 G; 7 T; 0 other;


  Query Match             100.0%;  Score 29;  DB 22;  Length 29;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      1 agtccgtggtagggcaggttggggtgact 29


RESULT   2
AAS16530
ID   AAS16530 standard; DNA; 37 BP.
XX
AC   AAS16530;
XX
DT   14-FEB-2002  (first entry)
XX
DE   Thrombin specific, DT-aptamer.
XX
KW   DT-aptamer; L-selectin; alpha-thrombin; plasma; blood;
KW   bronchial aspirate; sandwich assay; ss.
XX
OS   Synthetic.
XX
     Key             Location/Qualifiers
     modified_base   1
                     /*tag=  a
FT                   /mod_base= g
FT                   /note= "Optionally fluorescein labelled, if position 1
FT                          is labelled, position 37 is not labelled"
FT   misc_binding    1..8
FT                   /*tag=  b
FT                   /bound_moiety= "nucleotides 37-30"
FT                   /note= "Forms a double stranded region with
FT                          nucleotides 37-30 of this sequence"
FT   misc_structure  12..13
FT                   /*tag=  c
FT                   /note= "Forms a guanine quartet structure with bases
FT                          17-16, 21-22 and 26-25 of this sequence"
FT   misc_structure  16..17
FT                   /*tag=  d
FT                   /note= "Forms a guanine quartet structure with bases
FT                          13-12, 22-21 and 25-26 of this sequence"
FT   misc_structure  21..22
FT                   /*tag=  e
FT                   /note= "Forms a guanine quartet structure with bases
FT                          12-13, 17-16 and 26-25 of this sequence"
FT   misc_structure  25..26
FT                   /*tag=  f
FT                   /note= "Forms a guanine quartet structure with bases
FT                          13-12, 16-17 and 22-21 of this sequence"
FT   misc_binding    30..37
FT                   /*tag=  g
FT                   /bound_moiety= "nucleotides 8-1"
FT                   /note= "Forms a double stranded region with
FT                          nucleotides 8-1 of this sequence"
FT   modified_base   37
FT                   /*tag=  h
FT                   /mod_base= c
FT                   /note= "Optionally fluorescein labelled, if position 37
FT                          is labelled, position 1 is not labelled"
XX
PN   WO200179562-A1.
XX
PD   25-OCT-2001.
XX
PF   18-APR-2001; 2001WO-US12614.
XX
PR   18-APR-2000; 2000US-198016P.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Lin Y,  Heil J,  Jayasena S;
XX
DR   WPI; 2002-017628/02.
XX
PT   Novel aptamer based two-site binding sandwich assay for detecting
PT   target compounds such as thrombin and L-selectin in a biological fluid,
PT   employs nucleic acid ligands as capture and/or reporter molecules -
XX
PS   Example 1; Fig 1A; 47pp; English.
XX
CC   The invention describes a novel method of detecting the presence of a
CC   target compound in a substance which may contain the target compound. The
CC   method involves exposing the substance to a capture molecule (CM) capable
CC   of binding to the target molecule (TM) and immobilised on a solid
CC   support. A reporter molecule (RM) capable of binding to the target
CC   molecule is added to the CM:TM complex to detect the CM:TM:RM complex,
CC   where CM and/or RM are a nucleic acid ligand to TM. The method is useful
CC   for detecting a target molecule such as a protein, preferably thrombin or
CC   L-selectin in a biological fluid including plasma, blood and serum. The
CC   assays detect human alpha-thrombin in buffer as well as in biological
CC   fluids. Detection of the target compound is useful for clinical diagnosis
CC   of physiological conditions in both human and veterinary diagnostics. The
CC   nucleic acid ligand-based sandwich assays, designed on two different
CC   types of beads that can be readily analysed in flow cytometry, allow
CC   multiplexed analysis of a mixture of target protein in a single tube.
CC   This sequence is the alpha-thrombin specific DT-aptamer, the capture
CC   molecule used to detect alpha-thrombin in a sample using the method
CC   described in the invention.
XX
SQ   Sequence 37 BP; 6 A; 6 C; 16 G; 9 T; 0 other;


  Query Match             100.0%;  Score 29;  DB 24;  Length 37;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      5 agtccgtggtagggcaggttggggtgact 33


RESULT   3
AAS16540
ID   AAS16540 standard; DNA; 37 BP.
XX
AC   AAS16540;
XX
DT   14-FEB-2002  (first entry)
XX
DE   Thrombin specific, DT-DIMR-F aptamer.
XX
```

KW DT-DIMR-F aptamer; L-selectin; alpha-thrombin; plasma; blood;
KW bronchial aspirate; sandwich assay; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 37
FT /*tag= a
FT /mod_base= c
FT /note= "Two copies of this sequence are joined at the 3'
FT end, by glycerol backbones, to a branching
FT phosphoramidite; the phosphoramidite is also
FT bound by a phosphodiester bond to a thymine
FT labelled with fluorescein"
XX
PN WO200179562-A1.
XX
PD 25-OCT-2001.
XX
PF 18-APR-2001; 2001WO-US12614.
XX
PR 18-APR-2000; 2000US-198016P.
XX
PA (GILE-) GILEAD SCI INC.
XX
PI Lin Y, Heil J, Jayasena S;
XX
DR WPI; 2002-017628/02.
XX
PT Novel aptamer based two-site binding sandwich assay for detecting
PT target compounds such as thrombin and L-selectin in a biological fluid,
PT employs nucleic acid ligands as capture and/or reporter molecules -
XX
PS Disclosure; Page 32; 47pp; English.
XX
CC The invention describes a novel method of detecting the presence of a
CC target compound in a substance which may contain the target compound. The
CC method involves exposing the substance to a capture molecule (CM) capable
CC of binding to the target molecule (TM) and immobilised on a solid
CC support. A reporter molecule (RM) capable of binding to the target
CC molecule is added to the CM:TM complex to detect the CM:TM:RM complex,
CC where CM and/or RM are a nucleic acid ligand to TM. The method is useful
CC for detecting a target molecule such as a protein, preferably thrombin or
CC L-selectin in a biological fluid including plasma, blood and serum. The
CC assays detect human alpha-thrombin in buffer as well as in biological
CC fluids. Detection of the target compound is useful for clinical diagnosis
CC of physiological conditions in both human and veterinary diagnostics. The
CC nucleic acid ligand-based sandwich assays, designed on two different
CC types of beads that can be readily analysed in flow cytometry, allow
CC multiplexed analysis of a mixture of target protein in a single tube.
CC This sequence is the alpha-thrombin specific DT-DIMR-F aptamer, a
CC derivative of DT-aptamer AAS16530 consisting of two DT-aptamer joined to
CC a fluorescein labelled branching phosphoramidite, this forms the capture
CC molecule used to detect alpha-thrombin in a sample using the method
CC described in the invention.
XX
SQ Sequence 37 BP; 6 A; 6 C; 16 G; 9 T; 0 other;

Query Match 100.0%; Score 29; DB 24; Length 37;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 5 agtccgtggtagggcaggttggggtgact 33

RESULT 4
AAQ98404
ID AAQ98404 standard; RNA; 38 BP.
XX
AC AAQ98404;
XX
DT 08-AUG-1996 (first entry)
XX
DE Truncated SELEX derived DNA thrombin ligand 60-18(38).
XX
KW Family 1; family 2; ligand; thrombin;
KW systematic evolution of ligands by exponential enrichment; SELEX;
KW heparin; selection; region of homology; inhibitor; ss.
XX
OS Synthetic.
XX
PN WO9521853-A1.
XX
PD 17-AUG-1995.
XX
PF 06-FEB-1995; 95WO-US01458.
XX
PR 28-MAR-1994; 94US-0219012.
PR 10-FEB-1994; 94US-0195005.
PR 11-JUN-1990; 90US-0536428.
PR 10-JUN-1991; 91US-0714131.
PR 22-APR-1993; 93US-0061691.
XX
PA (NEXS-) NEXSTAR PHARM INC.
XX
PI Gold L, Janjic N, Tasset D;
XX
DR WPI; 1995-293073/38.
XX
PT Identification of ligands to basic fibroblast growth factor and
PT thrombin - which can be modified for increased in vivo stability
XX
PS Claim 39; Page 98; 236pp; English.
XX
CC The sequences given in AAQ98397-405 represent DNA ligands directed to
CC thrombin which were isolated using systematic evolution of ligands by
CC exponential enrichment (SELEX). Two populations of single stranded
CC (ss) DNA molecules with either 30N or 60N variable regions with 5' and
CC 3' fixed regions were synthesised. Thrombin and DNA were incubated in
CC a buffer at 37 deg.C for 5 mins. The thrombin-bound DNA is removed by
CC filtration. A double stranded product was created and amplified by PCR,
CC and a ssDNA template pool was isolated from this by alkaline
CC denaturation. This ssDNA template pool was used for the following round
CC of SELEX. Individual clones were isolated and the dissociation
CC constants (Kd) were determined. Kd's ranged from 0.4-9.4 nM for the 30N
CC DNA's and from 0.9-2.5 nM for the 60N DNA's. A truncated ligand given in
CC AAQ98404 was derived form the high affinity clone 60-18 and has a Kd of
CC 1.9 nM and inhibits clotting.
XX
SQ Sequence 38 BP; 6 A; 6 C; 17 G; 9 T; 0 other;

Query Match 100.0%; Score 29; DB 16; Length 38;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 2 agtccgtggtagggcaggttggggtgact 30

RESULT 5
AAT86654
ID AAT86654 standard; DNA; 38 BP.
XX
AC AAT86654;
XX
DT 08-MAY-1998 (first entry)
XX
DE Spectroscopically detectable nucleic acid ligand compound #2.
XX
KW Spectroscopically detectable; detection; phosphorothioate;
KW fluorescein; thiazole orange; ss.

```
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1
FT                   /*tag=  a
FT                   /note= "Guaninel labeled with fluorescein via
FT                          a C6 linker molecule via a C3 linker"
XX
PN   WO9622383-A1.
XX
PD   25-JUL-1996.
XX
PF   21-JUL-1995;   95WO-US09237.
XX
PR   20-JAN-1995;   95US-0376329.
XX
PA   (BECT ) BECTON DICKINSON CO.
PA   (NEXS-) NEXSTAR PHARM INC.
XX
   Gold L,  Malinowski DP,  Pitner JB,  Vonk GP;
XX
DR   WPI; 1996-354540/35.
XX
PT   Detection of target cpds. such as thrombin - using spectroscopically
PT   detectable nucleic acid ligands
XX
PS   Claim 8; Figure 1; 37pp; English.
XX
CC   This sequence represents a spectroscopically detectable nucleic acid
CC   ligand which was used to detect the presence or absence of a target
CC   compound (thrombin) in a sample. This ligand can also be used for
CC   monitoring the binding of target compounds (such as growth factors) to
CC   their receptors in competition-based assays. It is thus useful in
CC   diagnostic assays. Spectroscopically detectable nucleic acid
CC   ligands of the invention may be used to detect e.g. thrombin, elastase,
CC   cell surface markers, growth factors, growth factor receptors, whole
CC   cells or viral particles present in biological samples such as blood.
CC   The receptor molecules are typically relatively small in relation to
CC   traditional receptor molecules such as antibodies. Any additional weight
CC   or volume added to the receptor molecules (even in the form of a small
CC   target) will significantly increase the weight or volume of the
CC   labelled receptor molecule and therefore permit detection of the
CC   relatively significant energy differences involved (between bound and
CC   unbound labelled receptor molecules).
XX
SQ   Sequence 38 BP; 6 A; 6 C; 17 G; 9 T; 0 other;

  Query Match             100.0%;  Score 29;  DB 17;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 agtccgtggtagggcaggttggggtgact 30


RESULT   6
AAT38802
ID   AAT38802 standard; DNA; 38 BP.
XX
AC   AAT38802;
XX
DT   26-SEP-1997  (first entry)
XX
DE   Thrombin ligand for use in therapeutic or diagnostic complex.
XX
KW   Therapy; diagnosis; complex; ligand; lipophilic compound;
KW   non-immunogenic; high molecular weight compound; SELEX; PEG;
KW   targetted delivery; liposome; dextran; albumin; magnetite;
KW   systematic evolution of ligands by exponential enrichment;
KW   polyethylene glycol; cholesterol; dialkyl; diacyl; glycerol;
KW   thrombin; ss.
XX
OS   Synthetic.
XX
PN   WO9634876-A1.
XX
PD   07-NOV-1996.
XX
PF   02-MAY-1996;   96WO-US06171.
XX
PR   05-JUN-1995;   95US-0464443.
PR   04-MAY-1995;   95US-0434465.
XX
PA   (NEXS-) NEXSTAR PHARM INC.
XX
PI   Gold L,  Janjic N,  Schmidt PG;
XX
DR   WPI; 1996-506093/50.
XX
PT   Compsn. contg. nucleic acid ligand and lipophilic or high mol.wt.
PT   non-immunogenic cpd.  - for diagnosis or therapy, has better
PT   pharmaco:kinetics, intracellular uptake and/or targetting than free
PT   ligand
XX
PS   Example 2; Fig 1A; 107pp; English.
XX
CC   A novel therapeutic or diagnostic complex comprises a nucleic acid
CC   ligand, i.e. the present sequence, and a lipophilic compound or a
CC   non-immunogenic, high molecular weight compound. The complex can be
CC   used for the targetted delivery of any therapeutic or diagnostic
CC   agent, e.g. fungicide, anti-tumour agent or another nucleic acid
CC   ligand, e.g. one that blocks the mutated form of p21. A ligand on
CC   the surface of the complex may also target circulating proteins,
CC   e.g. auto-antibodies, for removal by the reticulo-endothelial
CC   system, for autoimmune disease treatment. When the high molecular
CC   weight compound is magnetite, the complex can also be used for
CC   nuclear magnetic resonance imaging. Compared to the ligand alone,
CC   the complex has better pharmacokinetic properties, cellular uptake
CC   and/or targetting properties. Many ligands can be included in the
CC   same composition, allowing multiple binding interactions at the
CC   target.
XX
SQ   Sequence 38 BP; 6 A; 6 C; 17 G; 9 T; 0 other;

  Query Match             100.0%;  Score 29;  DB 17;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 agtccgtggtagggcaggttggggtgact 30


RESULT   7
AAT85812
ID   AAT85812 standard; DNA; 38 BP.
XX
AC   AAT85812;
XX
DT   17-NOV-1997  (first entry)
XX
DE   Thrombin-binding nucleic acid ligand.
XX
KW   Thiazole orange; fluorescein; spectroscopic assay;
KW   fluorescence polarisation detection; thrombin; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1
FT                   /*tag=  a
FT                   /note= "5'-Labelled with fluorescein via a C6
```

FT linker arm (= Compound 2)"
XX
PN US5650275-A.
XX
PD 22-JUL-1997.
XX
PF 18-JUL-1994; 94US-0276271.
XX
PR 18-MAY-1995; 95US-0443957.
PR 11-JUN-1990; 90US-0536428.
PR 10-JUN-1991; 91US-0714131.
PR 17-AUG-1992; 92US-0931473.
PR 07-OCT-1993; 93US-0134028.
PR 28-APR-1994; 94US-0234997.
PR 18-JUL-1994; 94US-0276271.
XX
PA (GOLD/) GOLD L.
PA (MALI/) MALINOWSKI D P.
PA (PITN/) PITNER J B.
PA (VONK/) VONK G P.

Gold L, Malinowski DP, Pitner JB, Vonk GP;

DR WPI; 1997-384664/35.
XX
PT Determining the presence of target compounds such as thrombin or
PT elastase - using spectroscopically detectable labelled nucleic acid
PT ligands and measurement of spectroscopic emissions.
XX
PS Claim 7; Column 8; 14pp; English.
XX
CC Spectroscopically detectable labelled nucleic acid ligands are used
CC in a claimed method for determining the presence of a target compound
CC in a sample. An increase in the spectroscopic emission of the
CC ligand in the presence of a sample relative to the ligand alone is
CC indicative of the presence of the target compound in the sample.
CC Target molecules may be proteins, peptides, cell surface markers,
CC carbohydrates, polysaccharides, glycoproteins, hormones, receptors,
CC antigens, antibodies, co-factors, inhibitors, drugs, dyes, nutrients,
CC growth factors, amino acids, ATP, whole cells or viral particles.
CC The present sequence is a preferred nucleic acid ligand for
CC detecting thrombin. When labelled with fluorescein it is designated
CC Compound 2.
XX
SQ Sequence 38 BP; 6 A; 6 C; 17 G; 9 T; 0 other;

Query Match 100.0%; Score 29; DB 18; Length 38;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 2 agtccgtggtagggcaggttggggtgact 30

RESULT 8
AAT80049
ID AAT80049 standard; DNA; 38 BP.
XX
AC AAT80049;
XX
DT 04-NOV-1997 (first entry)
XX
DE Thrombin binding ligand #2.
XX
KW Thrombin; binding ligand; cell surface marker; hormone; receptor; human;
KW antibody; theophylline; viral particle; environmental discharge;
KW elastase; liquid waste; growth factor; chorionic gonadotropin; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers

FT misc_feature 1
FT /*tag= a
FT /note= "fluorescein labelled"
XX
PN US5641629-A.
XX
PD 24-JUN-1997.
XX
PF 11-JUN-1990; 90US-0536428.
XX
PR 18-MAY-1995; 95US-0443957.
PR 11-JUN-1990; 90US-0536428.
PR 10-JUN-1991; 91US-0714131.
PR 17-AUG-1992; 92US-0931473.
PR 07-OCT-1993; 93US-0134028.
PR 28-APR-1994; 94US-0234997.
PR 18-JUL-1994; 94US-0276271.
PR 20-JAN-1995; 95US-0376329.
XX
PA (GOLD/) GOLD L.
PA (MALI/) MALINOWSKI D P.
PA (PITN/) PITNER J B.
PA (VONK/) VONK G P.
XX
PI Gold L, Malinowski DP, Pitner JB, Vonk GP;
XX
DR WPI; 1997-340938/31.
XX
PT Determining presence or absence of target compounds such as thrombin
PT or elastase - using spectroscopically detectable labelled nucleic
PT acid ligands and measurement of fluorescence polarisation,
PT anisotropy values or rotation correlation times.
XX
PS Example 1; Column 8; 15pp; English.
XX
CC AAT80048-T80050 represent thrombin binding ligands. These sequences can
CC be labelled and used as the spectroscopically detectable labelled
CC nucleic acid ligands (SDNAL) in the method of the invention. The method
CC of the invention is to detect the presence or absence of a target
CC compound (TC) in a sample. The TC for detection, include proteins, cell
CC surface markers, polysaccharides, hormones, receptors, antibodies, drugs,
CC dyes, ATP, theophylline, whole cells and viral particles. The method
CC comprises measuring at least one of the fluorescence polarisation,
CC anisotropy values or rotational correlation times of a SDNAL to the TC,
CC then adding to the sample the SDNAL so that the SDNAL binds to the TC. It
CC is then determined whether there is a difference between at least one of
CC the fluorescence polarisation, anisotropy values or rotation correlation
CC times of the mixture of SDNAL bound to the TC and sample, and the SDNAL
CC alone. An increase in at least one of these values in the mixture
CC relative to the SDNAL alone is indicative of the presence of the TC in
CC the sample. The SDNAL allows quantitative and qualitative determination
CC of differences in detectable emissions to determine the presence or
CC absence of specific target molecules in samples. The method may be used
CC for assays of target ligands in biological materials, foods or
CC environmental discharges (such as liquid wastes). The target is
CC especially thrombin, elastase, a cell surface marker, a growth factor,
CC human chorionic gonadotropin, a whole cell or a viral particle.
XX
SQ Sequence 38 BP; 6 A; 6 C; 17 G; 9 T; 0 other;

Query Match 100.0%; Score 29; DB 18; Length 38;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 2 agtccgtggtagggcaggttggggtgact 30

RESULT 9
AAF70817
ID AAF70817 standard; DNA; 38 BP.

```
XX
AC   AAF70817;
XX
DT   20-APR-2001  (first entry)
XX
DE   Thrombin high affinity ligand #64.
XX
KW   Ligand; basic fibroblast growth factor; bFGF; gene therapy; vascular;
KW   atherosclerosis; angioplasty; stability; ss.
XX
OS   Unidentified.
XX
PN   US6177557-B1.
XX
PD   23-JAN-2001.
XX
PF   05-AUG-1996;   96US-0687421.
XX
PR   11-JUN-1990;   90US-0536428.
     10-JUN-1991;   91US-0714131.
     06-NOV-1992;   92US-0973333.
     10-FEB-1994;   94US-0195005.
PR   28-MAR-1994;   94US-0219012.
XX
PA   (NEXS-) NEXSTAR PHARM INC.
XX
PI   Janjic N,  Gold L,  Tasset D;
XX
DR   WPI; 2001-158583/16.
XX
PT   Novel nucleic acid ligands to basic fibroblast growth factor that are
PT   useful as inhibitors of basic fibroblast growth factors and 2'-amino
PT   modified RNA ligands, exhibit increased in vivo stability  -
XX
PS   Example 19; Column 61-62; 153pp; English.
XX
CC   The present invention relates to a purified and isolated non-naturally
CC   occurring DNA ligands to basic fibroblast growth factor (bFGF).
CC   The ligands are useful as part of gene therapy treatments and
CC   for diagnosing pathogenesis of vascular diseases including
CC   initiation and progression of atherosclerosis, acute coronary
CC   syndromes, vein graft disease and restenosis following coronary
CC   angioplasty. The ligands have improved stability in vivo.
XX
SQ   Sequence 38 BP; 6 A; 6 C; 17 G; 9 T; 0 other;


  Query Match             100.0%;  Score 29;  DB 22;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 agtccgtggtagggcaggttggggtgact 30


RESULT  10
AAX87088
ID   AAX87088 standard; DNA; 39 BP.
XX
AC   AAX87088;
XX
DT   20-SEP-1999  (first entry)
XX
DE   DNA ligand T39 to human thrombin.
XX
KW   Platelet derived growth factor; PDGF; human; ligand; SELEX;
KW   systematic evolution of ligands by exponential enrichment;
KW   single stranded DNA; ssDNA; angiogenesis; restenosis; tumour;
KW   cancer; fibrosis; therapy; thrombin; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   39
FT                   /*tag=  a
FT                   /mod_base= OTHER
FT                   /note= "inverted orientation (3'-3'-linked),
FT                         reduces 3'-exonuclease degradation"
XX
PN   WO9931119-A1.
XX
PD   24-JUN-1999.
XX
PF   29-APR-1998;   98WO-US09050.
XX
PR   16-DEC-1997;   97US-0991743.
XX
PA   (NEXS-) NEXSTAR PHARM INC.
XX
PI   Gold L,  Janjic N;
XX
DR   WPI; 1999-405022/34.
XX
PT   Complex comprises a platelet derived growth factor nucleic acid
PT   ligand
XX
PS   Example 3; Page 52; 156pp; English.
XX
CC   This sequence represents DNA ligand T39 to human thrombin.  It was
CC   used as a control in experiments designed to examining binding of
CC   minimal DNA ligands (see AAX87083-85) to human platelet derived
CC   growth factor (PDGF).  The invention discloses a method for
CC   preparing a complex of a PDGF nucleic acid ligand and a
CC   non-immunogenic high mol.wt. compound (e.g. PEG) or lipophilic
CC   compound (e.g. a glycerol lipid).  Such complexes are used as
CC   inhibitors of PGDF mediated angiogenesis, to inhibit the growth of
CC   tumours, to inhibit fibrosis (especially kidney, lung, bone marrow
CC   or radiation treatment associated fibrosis) or to inhibit
CC   restenosis, especially in-stent restenosis or restenosis in a
CC   coronary artery or non-coronary vessel.  They can also be used to
CC   target a therapeutic or diagnostic agent to a biological target
CC   expressing PDGF.
XX
SQ   Sequence 39 BP; 6 A; 6 C; 17 G; 10 T; 0 other;


  Query Match             100.0%;  Score 29;  DB 20;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 agtccgtggtagggcaggttggggtgact 30


RESULT  11
AAS16539
ID   AAS16539 standard; DNA; 42 BP.
XX
AC   AAS16539;
XX
DT   14-FEB-2002  (first entry)
XX
DE   Thrombin specific, DT-5'-LNK-aptamer.
XX
KW   DT-5'-LNK-aptamer; L-selectin; alpha-thrombin; plasma; blood;
KW   bronchial aspirate; sandwich assay; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1
FT                   /*tag=  a
FT                   /mod_base= t
FT                   /label= Fluorescein
```

```
FT   misc_feature    1..5
FT                   /*tag= b
FT                   /label= Thymine_linker
FT                   /function= "Alleviates steric crowding between aptamers
FT                            on the surface of the captured particle"
FT   misc_binding    6..13
FT                   /*tag= c
FT                   /bound_moiety= "nucleotides 42-35"
FT                   /note= "Forms a double stranded region with
FT                          nucleotides 42-35 of this sequence"
FT   misc_structure  17..18
FT                   /*tag= d
FT                   /note= "Forms a guanine quartet structure with bases
FT                          22-21, 26-27 and 31-30 of this sequence"
FT   misc_structure  21..22
FT                   /*tag= e
FT                   /note= "Forms a guanine quartet structure with bases
FT                          18-17, 27-26 and 30-31 of this sequence"
FT   misc_structure  26..27
FT                   /*tag= f
FT                   /note= "Forms a guanine quartet structure with bases
                            17-18, 22-21 and 31-30 of this sequence"
     misc_structure  30..31
FT                   /*tag= g
FT                   /note= "Forms a guanine quartet structure with bases
FT                          18-17, 21-22 and 27-26 of this sequence"
FT   misc_binding    35..42
FT                   /*tag= h
FT                   /bound_moiety= "nucleotides 13-6"
FT                   /note= "Forms a double stranded region with
FT                          nucleotides 13-6 of this sequence"
XX
PN   WO200179562-A1.
XX
PD   25-OCT-2001.
XX
PF   18-APR-2001; 2001WO-US12614.
XX
PR   18-APR-2000; 2000US-198016P.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Lin Y,  Heil J,  Jayasena S;
XX
DR   WPI; 2002-017628/02.
XX
PT   Novel aptamer based two-site binding sandwich assay for detecting
PT   target compounds such as thrombin and L-selectin in a biological fluid,
     employs nucleic acid ligands as capture and/or reporter molecules -

     Disclosure; Page 32; 47pp; English.
XX
CC   The invention describes a novel method of detecting the presence of a
CC   target compound in a substance which may contain the target compound. The
CC   method involves exposing the substance to a capture molecule (CM) capable
CC   of binding to the target molecule (TM) and immobilised on a solid
CC   support. A reporter molecule (RM) capable of binding to the target
CC   molecule is added to the CM:TM complex to detect the CM:TM:RM complex,
CC   where CM and/or RM are a nucleic acid ligand to TM. The method is useful
CC   for detecting a target molecule such as a protein, preferably thrombin or
CC   L-selectin in a biological fluid including plasma, blood and serum. The
CC   assays detect human alpha-thrombin in buffer as well as in biological
CC   fluids. Detection of the target compound is useful for clinical diagnosis
CC   of physiological conditions in both human and veterinary diagnostics. The
CC   nucleic acid ligand-based sandwich assays, designed on two different
CC   types of beads that can be readily analysed in flow cytometry, allow
CC   multiplexed analysis of a mixture of target protein in a single tube.
CC   This sequence is the alpha-thrombin specific DT-5'-LNK-aptamer, a
CC   derivative of the DT-aptamer (AAS16530) the capture molecule used to
CC   detect alpha-thrombin in a sample using the method described in the
CC   invention.
XX
SQ   Sequence 42 BP; 6 A; 6 C; 16 G; 14 T; 0 other;
```

```
  Query Match             100.0%;  Score 29;  DB 24;  Length 42;
  Best Local Similarity   100.0%;  Pred. No. 0.014;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db      10 agtccgtggtagggcaggttggggtgact 38


RESULT  12
AAS16537
ID   AAS16537 standard; DNA; 43 BP.
XX
AC   AAS16537;
XX
DT   14-FEB-2002  (first entry)
XX
DE   Thrombin specific, DT-3'-LNK-aptamer.
XX
KW   DT-3'-LNK-aptamer; L-selectin; alpha-thrombin; plasma; blood;
KW   bronchial aspirate; sandwich assay; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   misc_binding    1..8
FT                   /*tag= a
FT                   /bound_moiety= "nucleotides 37-30"
FT                   /note= "Forms a double stranded region with
FT                          nucleotides 37-30 of this sequence"
FT   misc_structure  12..13
FT                   /*tag= b
FT                   /note= "Forms a guanine quartet structure with bases
FT                          17-16, 21-22 and 26-25 of this sequence"
FT   misc_structure  16..17
FT                   /*tag= c
FT                   /note= "Forms a guanine quartet structure with bases
FT                          13-12, 22-21 and 25-26 of this sequence"
FT   misc_structure  21..22
FT                   /*tag= d
FT                   /note= "Forms a guanine quartet structure with bases
FT                          12-13, 17-16 and 26-25 of this sequence"
FT   misc_structure  25..26
FT                   /*tag= e
FT                   /note= "Forms a guanine quartet structure with bases
FT                          13-12, 16-17 and 22-21 of this sequence"
FT   misc_binding    30..37
FT                   /*tag= f
FT                   /bound_moiety= "nucleotides 8-1"
FT                   /note= "Forms a double stranded region with
FT                          nucleotides 8-1 of this sequence"
FT   misc_feature    38..43
FT                   /*tag= g
FT                   /label= Thymine_linker
FT                   /function= "Alleviates steric crowding between aptamers
FT                            on the surface of the captured particle"
FT   modified_base   43
FT                   /*tag= h
FT                   /mod_base= t
FT                   /label= Fluorescein
XX
PN   WO200179562-A1.
XX
PD   25-OCT-2001.
XX
PF   18-APR-2001; 2001WO-US12614.
XX
PR   18-APR-2000; 2000US-198016P.
XX
PA   (GILE-) GILEAD SCI INC.
XX
```

PI Lin Y, Heil J, Jayasena S;
XX
DR WPI; 2002-017628/02.
XX
PT Novel aptamer based two-site binding sandwich assay for detecting
PT target compounds such as thrombin and L-selectin in a biological fluid,
PT employs nucleic acid ligands as capture and/or reporter molecules -
XX
PS Disclosure; Page 32; 47pp; English.
XX
CC The invention describes a novel method of detecting the presence of a
CC target compound in a substance which may contain the target compound. The
CC method involves exposing the substance to a capture molecule (CM) capable
CC of binding to the target molecule (TM) and immobilised on a solid
CC support. A reporter molecule (RM) capable of binding to the target
CC molecule is added to the CM:TM complex to detect the CM:TM:RM complex,
CC where CM and/or RM are a nucleic acid ligand to TM. The method is useful
CC for detecting a target molecule such as a protein, preferably thrombin or
CC L-selectin in a biological fluid including plasma, blood and serum. The
CC assays detect human alpha-thrombin in buffer as well as in biological
CC fluids. Detection of the target compound is useful for clinical diagnosis
CC of physiological conditions in both human and veterinary diagnostics. The
CC nucleic acid ligand-based sandwich assays, designed on two different
CC types of beads that can be readily analysed in flow cytometry, allow
CC multiplexed analysis of a mixture of target protein in a single tube.
CC This sequence is the alpha-thrombin specific DT-3'-LNK-aptamer, a
CC derivative of the DT-aptamer (AAS16530) the capture molecule used to
CC detect alpha-thrombin in a sample using the method described in the
CC invention.
XX
SQ Sequence 43 BP; 6 A; 6 C; 16 G; 15 T; 0 other;

Query Match 100.0%; Score 29; DB 24; Length 43;
Best Local Similarity 100.0%; Pred. No. 0.014;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 5 agtccgtggtagggcaggttggggtgact 33

RESULT 13
AAT00205
ID AAT00205 standard; DNA; 30 BP.
XX
AC AAT00205;

14-AUG-1996 (first entry)

DE Thrombin DNA ligand, clone #6.
XX
KW Family 1; family 2; ligand; thrombin;
KW systematic evolution of ligands by exponential enrichment; SELEX;
KW heparin; selection; region of homology; inhibitor; ss.
XX
OS Synthetic.
XX
PN WO9521853-A1.
XX
PD 17-AUG-1995.
XX
PF 06-FEB-1995; 95WO-US01458.
XX
PR 28-MAR-1994; 94US-0219012.
PR 10-FEB-1994; 94US-0195005.
PR 11-JUN-1990; 90US-0536428.
PR 10-JUN-1991; 91US-0714131.
PR 22-APR-1993; 93US-0061691.
XX
PA (NEXS-) NEXSTAR PHARM INC.
XX
PI Gold L, Janjic N, Tasset D;
XX
DR WPI; 1995-293073/38.
XX
PT Identification of ligands to basic fibroblast growth factor and
PT thrombin - which can be modified for increased in vivo stability
XX
PS Claim 39; Page 95; 236pp; English.
XX
CC The sequences given in AAT00202-25 and AAT00227-57 represent two groups
CC of ligands to thrombin. These sequences were isolated using the single
CC stranded DNA molecules given in AAT00201 and AAT00226 which comprise a
CC 30N and a 60N variable region, respectively. These ligands were
CC isolated using systematic evolution of ligands by exponential enrichment
CC (SELEX). The selection was conducted in a buffer solution at 37 deg. C.
CC After 12 rounds of selection, no additional improvement in binding was
CC seen. By studying regions of homology between the isolated ligands, a
CC truncated ligand of 38 nucleotides (see AAQ98403-04) was identified which
CC retains high affinity binding and inhibits clotting. These ligands are
CC inhibitors of thrombin and are therefore useful in treating thrombin
CC mediated conditions and in studying the structure and binding of
CC thrombin.
XX
SQ Sequence 30 BP; 5 A; 5 C; 14 G; 6 T; 0 other;

Query Match 68.3%; Score 19.8; DB 16; Length 30;
Best Local Similarity 91.3%; Pred. No. 61;
Matches 21; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 4 ccgtggtagggcaggttggggtg 26
||||||||||| ||| |||||||
Db 5 ccgtggtagggtaggatggggtg 27

RESULT 14
AAF70757
ID AAF70757 standard; DNA; 30 BP.
XX
AC AAF70757;
XX
DT 20-APR-2001 (first entry)
XX
DE Thrombin high affinity ligand #4.
XX
KW Ligand; basic fibroblast growth factor; bFGF; gene therapy; vascular;
KW atherosclerosis; angioplasty; stability; ss.
XX
OS Unidentified.
XX
PN US6177557-B1.
XX
PD 23-JAN-2001.
XX
PF 05-AUG-1996; 96US-0687421.
XX
PR 11-JUN-1990; 90US-0536428.
PR 10-JUN-1991; 91US-0714131.
PR 06-NOV-1992; 92US-0973333.
PR 10-FEB-1994; 94US-0195005.
PR 28-MAR-1994; 94US-0219012.
XX
PA (NEXS-) NEXSTAR PHARM INC.
XX
PI Janjic N, Gold L, Tasset D;
XX
DR WPI; 2001-158583/16.
XX
PT Novel nucleic acid ligands to basic fibroblast growth factor that are
PT useful as inhibitors of basic fibroblast growth factors and 2'-amino
PT modified RNA ligands, exhibit increased in vivo stability -
XX
PS Example 19; Column 57-58; 153pp; English.
XX

CC The present invention relates to a purified and isolated non-naturally
CC occurring DNA ligands to basic fibroblast growth factor (bFGF).
CC The ligands are useful as part of gene therapy treatments and
CC for diagnosing pathogenesis of vascular diseases including
CC initiation and progression of atherosclerosis, acute coronary
CC syndromes, vein graft disease and restenosis following coronary
CC angioplasty. The ligands have improved stability in vivo.
XX
SQ Sequence 30 BP; 5 A; 5 C; 14 G; 6 T; 0 other;

Query Match 68.3%; Score 19.8; DB 22; Length 30;
Best Local Similarity 91.3%; Pred. No. 61;
Matches 21; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 4 ccgtggtagggcaggttggggtg 26
||||||||||| ||| |||||||
Db 5 ccgtggtagggtaggatggggtg 27

RESULT 15
AAT00218
AAT00218 standard; DNA; 30 BP.
XX
AC AAT00218;
XX
DT 14-AUG-1996 (first entry)
XX
DE Thrombin DNA ligand, clone #26.
XX
KW Family 1; family 2; ligand; thrombin;
KW systematic evolution of ligands by exponential enrichment; SELEX;
KW heparin; selection; region of homology; inhibitor; ss.
XX
OS Synthetic.
XX
PN WO9521853-A1.
XX
PD 17-AUG-1995.
XX
PF 06-FEB-1995; 95WO-US01458.
XX
PR 28-MAR-1994; 94US-0219012.
PR 10-FEB-1994; 94US-0195005.
PR 11-JUN-1990; 90US-0536428.
PR 10-JUN-1991; 91US-0714131.
PR 22-APR-1993; 93US-0061691.
XX
(NEXS-) NEXSTAR PHARM INC.

Gold L, Janjic N, Tasset D;
XX
DR WPI; 1995-293073/38.
XX
PT Identification of ligands to basic fibroblast growth factor and
PT thrombin - which can be modified for increased in vivo stability
XX
PS Claim 39; Page 95; 236pp; English.
XX
CC The sequences given in AAT00202-25 and AAT00227-57 represent two groups
CC of ligands to thrombin. These sequences were isolated using the single
CC stranded DNA molecules given in AAT00201 and AAT00226 which comprise a
CC 30N and a 60N variable region, respectively. These ligands were
CC isolated using systematic evolution of ligands by exponential enrichment
CC (SELEX). The selection was conducted in a buffer solution at 37 deg. C.
CC After 12 rounds of selection, no additional improvement in binding was
CC seen. By studying regions of homology between the isolated ligands, a
CC truncated ligand of 38 nucleotides (see AAQ98403-04) was identified which
CC retains high affinity binding and inhibits clotting. These ligands are
CC inhibitors of thrombin and are therefore useful in treating thrombin
CC mediated conditions and in studying the structure and binding of
CC thrombin.
XX
SQ Sequence 30 BP; 4 A; 3 C; 14 G; 9 T; 0 other;

Query Match 66.9%; Score 19.4; DB 16; Length 30;
Best Local Similarity 95.2%; Pred. No. 88;
Matches 20; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 5 cgtggtagggcaggttggggt 25
||||||||||| ||||||||||
Db 9 cgtggtagggtaggttggggt 29

Search completed: June 6, 2002, 16:08:48
Job time: 2149 sec

GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 6, 2002, 16:04:32 ; Search time 51.8 Seconds
(without alignments)
137.517 Million cell updates/sec

Title: US-09-599-220-2
Perfect score: 29
Sequence: 1 agtccgtggtagggcaggttggggtgact 29

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 383533 seqs, 122816752 residues

Total number of hits satisfying chosen parameters: 543772

Minimum DB seq length: 0
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Result No.	Score	% Query Match	Length	DB	ID	Description
	1	29	100.0	36	3	US-08-434-465-3	Sequence 3, Appli
	2	29	100.0	38	1	US-08-219-012-91	Sequence 91, Appl
	3	29	100.0	38	1	US-08-376-329-2	Sequence 2, Appli
	4	29	100.0	38	1	US-08-276-271-2	Sequence 2, Appli
	5	29	100.0	38	3	US-08-434-465-6	Sequence 6, Appli
	6	29	100.0	38	4	US-08-687-421-279	Sequence 279, App
	7	29	100.0	38	5	PCT-US95-09237-2	Sequence 2, Appli
	8	29	100.0	39	1	US-08-479-783A-90	Sequence 90, Appl
	9	29	100.0	39	1	US-08-479-725-90	Sequence 90, Appl
	10	29	100.0	39	1	US-08-618-693-88	Sequence 88, Appl
	11	29	100.0	39	4	US-08-973-124-177	Sequence 177, App
	12	29	100.0	39	4	US-08-991-743C-88	Sequence 88, Appl
	13	29	100.0	39	5	PCT-US96-08014-177	Sequence 177, App
	14	29	100.0	40	3	US-08-434-465-9	Sequence 9, Appli
	15	29	100.0	40	3	US-08-434-465-13	Sequence 13, Appl
	16	29	100.0	41	3	US-08-434-465-7	Sequence 7, Appli
	17	29	100.0	41	3	US-08-434-465-12	Sequence 12, Appl
	18	29	100.0	41	3	US-08-434-465-15	Sequence 15, Appl
	19	29	100.0	42	3	US-08-434-465-5	Sequence 5, Appli
	20	29	100.0	42	3	US-08-434-465-8	Sequence 8, Appli
	21	19.8	68.3	30	1	US-08-219-012-31	Sequence 31, Appl
	22	19.8	68.3	30	4	US-08-687-421-219	Sequence 219, App
	23	19.4	66.9	30	1	US-08-219-012-44	Sequence 44, Appl
	24	19.4	66.9	30	4	US-08-687-421-232	Sequence 232, App
	25	19	65.5	30	1	US-08-219-012-47	Sequence 47, Appl
	26	19	65.5	30	4	US-08-687-421-235	Sequence 235, App
	27	18.8	64.8	30	1	US-08-219-012-29	Sequence 29, Appl
	28	18.8	64.8	30	4	US-08-687-421-217	Sequence 217, App
	29	17.2	59.3	30	1	US-08-219-012-35	Sequence 35, Appl
	30	17.2	59.3	30	4	US-08-687-421-223	Sequence 223, App
	31	16	55.2	30	1	US-08-219-012-43	Sequence 43, Appl
	32	16	55.2	30	4	US-08-687-421-231	Sequence 231, App
	33	15.8	54.5	30	1	US-08-219-012-32	Sequence 32, Appl
	34	15.8	54.5	30	4	US-08-687-421-220	Sequence 220, App
	35	14.8	51.0	29	1	US-08-058-907-3	Sequence 3, Appli
c	36	14.8	51.0	30	1	US-07-786-902-7	Sequence 7, Appli
c	37	14.6	50.3	21	2	US-08-981-663-4	Sequence 4, Appli
c	38	14.6	50.3	25	2	US-08-981-663-64	Sequence 64, Appl
	39	14.6	50.3	38	1	US-08-145-704-4	Sequence 4, Appli
	40	14.6	50.3	38	3	US-08-987-574-4	Sequence 4, Appli
	41	14.6	50.3	38	4	US-08-535-168-4	Sequence 4, Appli
	42	14.6	50.3	38	4	US-09-017-974-4	Sequence 4, Appli
	43	14.6	50.3	38	4	US-09-429-130-4	Sequence 4, Appli
	44	14.6	50.3	38	5	PCT-US96-11786-4	Sequence 4, Appli
	45	14.2	49.0	21	1	US-08-484-192-78	Sequence 78, Appl

ALIGNMENTS

```
RESULT   1
US-08-434-465-3
; Sequence 3, Application US/08434465
; Patent No. 6011020
;  GENERAL INFORMATION:
;    APPLICANT:  LARRY GOLD, PAUL G. SCHMIDT, NEBOJSA JANJIC
;    TITLE OF INVENTION:  NUCLEIC ACID LIGAND COMPLEXES
;    NUMBER OF SEQUENCES:  15
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson and Bratschun, L.L.C.
;      STREET:  8400 East Prentice Avenue, Suite #200
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.50 inch, 1.44 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/434,465
;      FILING DATE:  4-MAY-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/714,131
;      FILING DATE:  10-JUNE-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/536,428
;      FILING DATE:  11-JUNE-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/234,997
;      FILING DATE:  28-April-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Diane H. McClearn
;      REGISTRATION NUMBER:  33,960
;      REFERENCE/DOCKET NUMBER:  NEX29
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 793-3333
;      TELEFAX:  (303) 793-3433
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  36
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA
US-08-434-465-3
```

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  Query Match             100.0%;  Score 29;  DB 3;  Length 36;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   2
US-08-219-012-91
; Sequence 91, Application US/08219012
; Patent No. 5543293
;  GENERAL INFORMATION:
;    APPLICANT:  Larry Gold
;    APPLICANT:  Diane Tasset
;    TITLE OF INVENTION:  Ligands of Thrombin
;    NUMBER OF SEQUENCES:  92
     CORRESPONDENCE ADDRESS:
       ADDRESSEE:  Beaton & Swanson, P.C.
       STREET:  4582 South Ulster Street Parkway, Suite #
;      STREET:  403
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80237
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 5.25 inch, 360 Kb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/219,012
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:  none
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Barry J. Swanson
;      REGISTRATION NUMBER:  33,215
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 850-9900
;      TELEFAX:  (303) 850-9401
;  INFORMATION FOR SEQ ID NO:  91:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  38 base pairs
;      TYPE:  nucleic acid
       STRANDEDNESS:  single
       TOPOLOGY:  linear
   08-219-012-91


  Query Match             100.0%;  Score 29;  DB 1;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   3
US-08-376-329-2
; Sequence 2, Application US/08376329
; Patent No. 5641629
;  GENERAL INFORMATION:
;    APPLICANT:  Pitner, James B
;    APPLICANT:  Malinowski, Douglas P
;    APPLICANT:  Vonk, Glenn P
;    APPLICANT:  Gold, Larry
;    TITLE OF INVENTION:  Spectroscopically Detectable Nucleic
;    TITLE OF INVENTION:  Acid Ligands
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Richard J. Roderick, Becton Dickinson and
;      ADDRESSEE:  Company
;      STREET:  1 Becton Drive
;      CITY:  Franklin Lakes
;      STATE:  NJ
;      COUNTRY:  USA
;      ZIP:  07417-1880
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/376,329
;      FILING DATE:
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highet, David W
;      REGISTRATION NUMBER:  30,265
;      REFERENCE/DOCKET NUMBER:  P-3126
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  201 847 5317
;      TELEFAX:  201 848 9228
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  38 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-376-329-2


  Query Match             100.0%;  Score 29;  DB 1;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   4
US-08-276-271-2
; Sequence 2, Application US/08276271
; Patent No. 5650275
;  GENERAL INFORMATION:
;    APPLICANT:  Pitner, James B
;    APPLICANT:  Malinowski, Douglas P
;    APPLICANT:  Vonk, Glenn P
;    APPLICANT:  Gold, Larry
;    TITLE OF INVENTION:  Spectroscopically Detectable Nucleic
;    TITLE OF INVENTION:  Acid Ligands
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Richard J. Roderick, Becton Dickinson and
;      ADDRESSEE:  Company
;      STREET:  1 Becton Drive
;      CITY:  Franklin Lakes
;      STATE:  NJ
;      COUNTRY:  USA
;      ZIP:  07417-1880
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/276,271
;      FILING DATE:
;      CLASSIFICATION:  436
;    ATTORNEY/AGENT INFORMATION:
```

```
;       NAME:  Highet, David W
;       REGISTRATION NUMBER:  30,265
;       REFERENCE/DOCKET NUMBER:  P-3126
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  201 847 5317
;       TELEFAX:  201 848 9228
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  38 base pairs
;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  DNA (genomic)
US-08-276-271-2


  Query Match             100.0%;  Score 29;  DB 1;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

        1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
        2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   5
US-08-434-465-6
; Sequence 6, Application US/08434465
; Patent No. 6011020
;  GENERAL INFORMATION:
;    APPLICANT:  LARRY GOLD, PAUL G. SCHMIDT, NEBOJSA JANJIC
;    TITLE OF INVENTION:  NUCLEIC ACID LIGAND COMPLEXES
;    NUMBER OF SEQUENCES:  15
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson and Bratschun, L.L.C.
;      STREET:  8400 East Prentice Avenue, Suite #200
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.50 inch, 1.44 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/434,465
;      FILING DATE:  4-MAY-1995
;      CLASSIFICATION:  514
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER:  07/714,131
;      FILING DATE:  10-JUNE-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/536,428
;      FILING DATE:  11-JUNE-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/234,997
;      FILING DATE:  28-April-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Diane H. McClearn
;      REGISTRATION NUMBER:  33,960
;      REFERENCE/DOCKET NUMBER:  NEX29
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 793-3333
;      TELEFAX:  (303) 793-3433
;  INFORMATION FOR SEQ ID NO:  6:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  38
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA
;    FEATURE:
;      OTHER INFORMATION:  Nucleotides 37 and 38 are
;      OTHER INFORMATION:  bound by a phosphorothioate bond
US-08-434-465-6


  Query Match             100.0%;  Score 29;  DB 3;  Length 38;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT   6
US-08-687-421-279
; Sequence 279, Application US/08687421
; Patent No. 6177557
;  GENERAL INFORMATION:
;    APPLICANT:  Gold, Larry
;    APPLICANT:  Janjic, Nebojsa
;    APPLICANT:  Tasset, Diane
;    TITLE OF INVENTION:  HIGH-AFFINITY LIGANDS OF BASIC
;    TITLE OF INVENTION:  FIBROBLAST GROWTH FACTOR AND
;    TITLE OF INVENTION:  THROMBIN
;    NUMBER OF SEQUENCES:  445
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson & Bratschun, L.L.C.
;      STREET:  8400 E. Prentice Avenue, Suite 200
;      CITY:  Englewood
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 1.44 MB storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 6.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/687,421
;      FILING DATE:  08-MAY-1996
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/195,005
;      FILING DATE:  10-FEBRUARY-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:  22-APRIL-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/219,012
;      FILING DATE:  28-MARCH-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/973,333
;      FILING DATE:  11-NOVEMBER-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/714,131
;      FILING DATE:  10-JUNE-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/536,428
;      FILING DATE:  11-JUNE-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Barry J. Swanson
;      REGISTRATION NUMBER:  33,215
;      REFERENCE/DOCKET NUMBER:  NEX07/PCT
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 793-3333
;      TELEFAX:  (303) 793-3433
;  INFORMATION FOR SEQ ID NO:  279:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  38 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
```

US-08-687-421-279

Query Match 100.0%; Score 29; DB 4; Length 38;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30

RESULT 7
PCT-US95-09237-2
; Sequence 2, Application PC/TUS9509237
; GENERAL INFORMATION:
; APPLICANT: Pitner, James B
; APPLICANT: Malinowski, Douglas P
; APPLICANT: Vonk, Glenn P
APPLICANT: Gold, Larry
TITLE OF INVENTION: Spectroscopically Detectable Nucleic
, TITLE OF INVENTION: Acid Ligands
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Swanson, Barry J.
; STREET: 8400 E. Prentice Avenue, Suite 200
; CITY: Englewood
; STATE: CO
; COUNTRY: USA
; ZIP: 80111
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch diskette
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: MS-DOS
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: PCT/US95/09237
; FILING DATE: 21 JULY 1995
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: Swanson, Barry J.
; REGISTRATION NUMBER: 33,215
; REFERENCE/DOCKET NUMBER: NEX-BEC/PCT
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 303 793 3333
; TELEFAX: 303 793 3433
; INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 38 base pairs
, TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
PCT-US95-09237-2

Query Match 100.0%; Score 29; DB 5; Length 38;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30

RESULT 8
US-08-479-783A-90
; Sequence 90, Application US/08479783A
; Patent No. 5668264
; GENERAL INFORMATION:
; APPLICANT: NEBOJSA JANJIC
; APPLICANT: LARRY GOLD
; TITLE OF INVENTION: HIGH AFFINITY PDGF NUCLEIC
; TITLE OF INVENTION: ACID LIGANDS
; NUMBER OF SEQUENCES: 90
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Swanson and Bratschun, L.L.C.
; STREET: 8400 East Prentice Avenue, Suite #200
; CITY: Denver
; STATE: Colorado
; COUNTRY: USA
; ZIP: 80111
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.5 inch, 1.4 Mb storage
; COMPUTER: IBM compatible
; OPERATING SYSTEM: MS-DOS
; SOFTWARE: WordPerfect 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/479,783A
; FILING DATE: 7-JUNE-1995
; CLASSIFICATION: 536
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/714,131
; FILING DATE: 10-JUNE-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/931,473
; FILING DATE: 17-AUGUST-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/964,624
; FILING DATE: 21-OCTOBER-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/117,991
; FILING DATE: 8-SEPTEMBER-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/536,428
; FILING DATE: 11-JUNE-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Diane H. McClearn
; REGISTRATION NUMBER: 33,960
; REFERENCE/DOCKET NUMBER: NEX42-2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (303) 793-3333
; TELEFAX: (303) 793-3433
; INFORMATION FOR SEQ ID NO: 90:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 39 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA
; FEATURE:
; OTHER INFORMATION: Nucleotide 39 is an inverted
; OTHER INFORMATION: orientation T (3'-3' linked)
US-08-479-783A-90

Query Match 100.0%; Score 29; DB 1; Length 39;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 agtccgtggtagggcaggttggggtgact 29
||||||||||||||||||||||||||||||
Db 2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30

RESULT 9
US-08-479-725-90
; Sequence 90, Application US/08479725
; Patent No. 5674685
; GENERAL INFORMATION:
; APPLICANT: NEBOJSA JANJIC
; APPLICANT: LARRY GOLD
; TITLE OF INVENTION: HIGH AFFINITY PDGF NUCLEIC
; TITLE OF INVENTION: ACID LIGANDS
; NUMBER OF SEQUENCES: 90
; CORRESPONDENCE ADDRESS:

```
;      ADDRESSEE:  Swanson and Bratschun, L.L.C.
;      STREET:  8400 East Prentice Avenue, Suite #200
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 1.4 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/479,725
;      FILING DATE:  7-JUNE-1995
;      CLASSIFICATION:  536
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/714,131
;      FILING DATE:  10-JUNE-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/931,473
;      FILING DATE:  17-AUGUST-1992
     PRIOR APPLICATION DATA:
       APPLICATION NUMBER:  07/964,624
;      FILING DATE:  21-OCTOBER-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/117,991
;      FILING DATE:  8-SEPTEMBER-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/536,428
;      FILING DATE:  11-JUNE-1990
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Diane H. McClearn
;      REGISTRATION NUMBER:  33,960
;      REFERENCE/DOCKET NUMBER:  NEX42-1
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 793-3333
;      TELEFAX:  (303) 793-3433
;  INFORMATION FOR SEQ ID NO:  90:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  39 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA
;    FEATURE:
;      OTHER INFORMATION:  Nucleotide 39 is an inverted
;      OTHER INFORMATION:  orientation T (3'-3' linked)
US-08-479-725-90

  Query Match           100.0%;  Score 29;  DB 1;  Length 39;
  Best Local Similarity  100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT  10
US-08-618-693-88
; Sequence 88, Application US/08618693
; Patent No. 5723594
;  GENERAL INFORMATION:
;    APPLICANT:  NEBOJSA JANJIC
;    APPLICANT:  LARRY GOLD
;    TITLE OF INVENTION:  HIGH AFFINITY PDGF NUCLEIC
;    TITLE OF INVENTION:  ACID LIGANDS
;    NUMBER OF SEQUENCES:  96
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson and Bratschun, L.L.C.
;      STREET:  8400 East Prentice Avenue, Suite #200
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 1.4 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 6.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/618,693
;      FILING DATE:  20 MARCH 1996
;      CLASSIFICATION:  536
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/479,783
;      FILING DATE:  7-JUNE-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Barry J. Swanson
;      REGISTRATION NUMBER:  33,215
;      REFERENCE/DOCKET NUMBER:  NEX42/CIP
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 793-3333
;      TELEFAX:  (303) 793-3433
;  INFORMATION FOR SEQ ID NO:  88:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  39 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA
;    FEATURE:
;      OTHER INFORMATION:  Nucleotide 39 is an
;      OTHER INFORMATION:  inverted orientation T (3 -3  linked)
US-08-618-693-88


  Query Match           100.0%;  Score 29;  DB 1;  Length 39;
  Best Local Similarity  100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT  11
US-08-973-124-177
; Sequence 177, Application US/08973124
; Patent No. 6207816
;  GENERAL INFORMATION:
;    APPLICANT:  LARRY GOLD et al.
;    TITLE OF INVENTION:  HIGH AFFINITY OLIGONUCLEOTIDE
;    TITLE OF INVENTION:  LIGANDS TO GROWTH
;    TITLE OF INVENTION:  FACTORS
;    NUMBER OF SEQUENCES:  304
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson & Bratschun, L.L.C.
;      STREET:  8400 E. Prentice Avenue, Suite 200
;      CITY:  Englewood
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 1.44 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 6.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/973,124
;      FILING DATE:
;      CLASSIFICATION:  536
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US96/08014
;      FILING DATE:  30-MAY-1996
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;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/458,423
;       FILING DATE:  02-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/458,424
;       FILING DATE:  02-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/465,594
;       FILING DATE:  05-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/465,591
;       FILING DATE:  05-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/479,725
;       FILING DATE:  07-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/479,783
;       FILING DATE:  07-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/618,693
;       FILING DATE:  20-MARCH-1996
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Barry J. Swanson
;       REGISTRATION NUMBER:  33,215
;       REFERENCE/DOCKET NUMBER:
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (303) 793-3333
;       TELEFAX:  (303) 793-3433
;   INFORMATION FOR SEQ ID NO:  177:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  39 base pairs
;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  DNA
;     FEATURE:
;       OTHER INFORMATION:  Nucleotide 39 is an
;       OTHER INFORMATION:  inverted orientation T (3'-3' linked)
US-08-973-124-177


  Query Match             100.0%;  Score 29;  DB 4;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
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        2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT  12
US-08-991-743C-88
; Sequence 88, Application US/08991743C
; Patent No. 6229002
;   GENERAL INFORMATION:
;        APPLICANT: NEBOJSA JANJIC, LARRY GOLD
;        TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR (PDGF) NUCLEIC
;                            ACID LIGAND COMPLEXES
;        NUMBER OF SEQUENCES: 149
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Swanson and Bratschun, L.L.C.
;             STREET: 1745 Shea Center Drive, Suite 330
;             CITY: Highlands Ranch
;             STATE: Colorado
;             COUNTRY: USA
;             ZIP: 80129
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Diskette, 3.5 inch, 1.4 Mb storage
;             COMPUTER: IBM compatible
;             OPERATING SYSTEM: MS-DOS
;             SOFTWARE: Word 97
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/08/991,743C
;             FILING DATE: 16-Dec-1997
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/618,693
;             FILING DATE: 20-MARCH-1996
;             APPLICATION NUMBER: 08/479,783
;             FILING DATE: 7-JUNE-1995
;             APPLICATION NUMBER: 08/479,725
;             FILING DATE: 7-JUNE-1995
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Barry J. Swanson
;             REGISTRATION NUMBER: 33,215
;             REFERENCE/DOCKET NUMBER: NEX66
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: (303) 268-0066
;             TELEFAX: (303) 268-0065
;   INFORMATION FOR SEQ ID NO: 88:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 39 base pairs
;             TYPE: nucleic acid
;             STRANDEDNESS: single
;             TOPOLOGY: linear
;        MOLECULE TYPE: DNA
;        FEATURE:
;             OTHER INFORMATION:  Nucleotide 39 is an inverted orientation T
;             (3'-3'-linked).
;        SEQUENCE DESCRIPTION: SEQ ID NO: 88:
US-08-991-743C-88


  Query Match             100.0%;  Score 29;  DB 4;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 agtccgtggtagggcaggttggggtgact 29
          |||||||||||||||||||||||||||||
Db      2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT  13
PCT-US96-08014-177
; Sequence 177, Application PC/TUS9608014
;  GENERAL INFORMATION:
;    APPLICANT:  LARRY GOLD; NEBOJSA JANJIC; STEVEN RINGQUIST;    NIKOS
;    APPLICANT:  PAGRATIS;PENELOPE J. TOOTHMAN
;    TITLE OF INVENTION:  HIGH AFFINITY OLIGONUCLEOTIDE
;    TITLE OF INVENTION:  LIGANDS TO TRANSFORMING GROWTH
;    TITLE OF INVENTION:  FACTOR   (TGF ), PLATELET-DERIVED
;    TITLE OF INVENTION:  GROWTH FACTOR (PDGF) AND HUMAN
;    TITLE OF INVENTION:  KEROTINOCYTE GROWTH FACTOR (hKGF)
;    NUMBER OF SEQUENCES:  304
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson & Bratschun, L.L.C.
;      STREET:  8400 E. Prentice Avenue, Suite 200
;      CITY:  Englewood
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.5 inch, 1.44 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 6.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US96/08014
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/458,423
;      FILING DATE:  02-JUNE-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/458,424
;      FILING DATE:  02-JUNE-1995
;    PRIOR APPLICATION DATA:
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;       APPLICATION NUMBER:  08/465,594
;       FILING DATE:  05-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/465,591
;       FILING DATE:  05-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/479,725
;       FILING DATE:  07-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/479,783
;       FILING DATE:  07-JUNE-1995
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/618,693
;       FILING DATE:  20-MARCH-1996
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Barry J. Swanson
;       REGISTRATION NUMBER:  33,215
;       REFERENCE/DOCKET NUMBER:
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  (303) 793-3333
;       TELEFAX:  (303) 793-3433
;    INFORMATION FOR SEQ ID NO:  177:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  39 base pairs
;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  DNA
;     FEATURE:
;       OTHER INFORMATION:  Nucleotide 39 is an
;       OTHER INFORMATION:  inverted orientation T (3 -3  linked)
PCT-US96-08014-177


  Query Match             100.0%;  Score 29;  DB 5;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       2 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 30


RESULT  14
US-08-434-465-9
; Sequence 9, Application US/08434465
; Patent No. 6011020
;  GENERAL INFORMATION:
     APPLICANT:  LARRY GOLD, PAUL G. SCHMIDT, NEBOJSA JANJIC
     TITLE OF INVENTION:  NUCLEIC ACID LIGAND COMPLEXES
     NUMBER OF SEQUENCES:  15
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson and Bratschun, L.L.C.
;      STREET:  8400 East Prentice Avenue, Suite #200
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.50 inch, 1.44 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/434,465
;      FILING DATE:  4-MAY-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/714,131
;      FILING DATE:  10-JUNE-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/536,428
;      FILING DATE:  11-JUNE-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/234,997
;      FILING DATE:  28-April-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Diane H. McClearn
;      REGISTRATION NUMBER:  33,960
;      REFERENCE/DOCKET NUMBER:  NEX29
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 793-3333
;      TELEFAX:  (303) 793-3433
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  40
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA
;    FEATURE:
;      OTHER INFORMATION:  N at position 1 is an alkyl
;      OTHER INFORMATION:  disulfide linker
;    FEATURE:
;      OTHER INFORMATION:  N at position 38 is a dT amino
;      OTHER INFORMATION:  phosphoramidite
;    FEATURE:
;      OTHER INFORMATION:  Nucleotide number 39 is an
;      OTHER INFORMATION:  inverted-orientation (3'3' linkage) phosphoramidite
US-08-434-465-9


  Query Match             100.0%;  Score 29;  DB 3;  Length 40;
  Best Local Similarity   100.0%;  Pred. No. 0.002;
  Matches   29;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 agtccgtggtagggcaggttggggtgact 29
           |||||||||||||||||||||||||||||
Db       3 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 31


RESULT  15
US-08-434-465-13
; Sequence 13, Application US/08434465
; Patent No. 6011020
;  GENERAL INFORMATION:
;    APPLICANT:  LARRY GOLD, PAUL G. SCHMIDT, NEBOJSA JANJIC
;    TITLE OF INVENTION:  NUCLEIC ACID LIGAND COMPLEXES
;    NUMBER OF SEQUENCES:  15
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Swanson and Bratschun, L.L.C.
;      STREET:  8400 East Prentice Avenue, Suite #200
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80111
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 3.50 inch, 1.44 Mb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/434,465
;      FILING DATE:  4-MAY-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/714,131
;      FILING DATE:  10-JUNE-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  07/536,428
;      FILING DATE:  11-JUNE-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/234,997
;      FILING DATE:  28-April-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Diane H. McClearn
```

; REGISTRATION NUMBER: 33,960
; REFERENCE/DOCKET NUMBER: NEX29
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (303) 793-3333
; TELEFAX: (303) 793-3433
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 40
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA
; FEATURE:
; OTHER INFORMATION: N at position 1 is a 20,000 MW
; OTHER INFORMATION: PEG
; FEATURE:
; OTHER INFORMATION: N at position 38 is a dT amino
; OTHER INFORMATION: phosphoramidite
; FEATURE:
; OTHER INFORMATION: Nucleotide 39 is an inverted
; OTHER INFORMATION: orientation (3'3' linkage) phosphoramidite
; US-08-434-465-13

Query Match 100.0%; Score 29; DB 3; Length 40;
Best Local Similarity 100.0%; Pred. No. 0.002;
Matches 29; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy       1 agtccgtggtagggcaggttggggtgact 29
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Db       3 AGTCCGTGGTAGGGCAGGTTGGGGTGACT 31
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Search completed: June 6, 2002, 16:04:32
Job time: 1893 sec

GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 6, 2002, 15:32:59 ; Search time 1796.86 Seconds
(without alignments)
174.693 Million cell updates/sec

Title: US-09-599-220-1
Perfect score: 15
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Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 1797656 seqs, 10463268293 residues

Total number of hits satisfying chosen parameters: 708260

Minimum DB seq length: 0
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : GenEmbl:*
1: gb_ba:*
2: gb_htg:*
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32: em_htg_other:*
33: em_htgo_inv:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query % Match	Length	DB	ID	Description
1	15	100.0	15	6	AR009266	AR009266 Sequence
2	15	100.0	15	6	AR009268	AR009268 Sequence
3	15	100.0	15	6	AR009269	AR009269 Sequence
4	15	100.0	15	6	AR009273	AR009273 Sequence
5	15	100.0	15	6	AR009274	AR009274 Sequence
6	15	100.0	15	6	AR009275	AR009275 Sequence
7	15	100.0	15	6	AR009316	AR009316 Sequence
8	15	100.0	15	6	AR060775	AR060775 Sequence
9	15	100.0	15	6	AR060777	AR060777 Sequence
10	15	100.0	15	6	AR060778	AR060778 Sequence
11	15	100.0	15	6	AR098723	AR098723 Sequence
12	15	100.0	15	6	AR125847	AR125847 Sequence
13	15	100.0	15	6	AR168827	AR168827 Sequence
14	15	100.0	15	6	I16587	I16587 Sequence 1
15	15	100.0	15	6	I24214	I24214 Sequence 1
16	15	100.0	15	6	I49649	I49649 Sequence 1
17	15	100.0	15	6	I56643	I56643 Sequence 1
18	15	100.0	15	6	I61386	I61386 Sequence 4
19	15	100.0	15	6	I65734	I65734 Sequence 4
20	15	100.0	15	6	I76184	I76184 Sequence 3
21	15	100.0	17	6	AR009267	AR009267 Sequence
22	15	100.0	17	6	AR009336	AR009336 Sequence
23	15	100.0	17	6	AR009350	AR009350 Sequence
24	15	100.0	17	6	AR060776	AR060776 Sequence
25	15	100.0	17	6	AR060801	AR060801 Sequence
26	15	100.0	17	6	AR060815	AR060815 Sequence
27	15	100.0	17	6	AR168828	AR168828 Sequence
28	15	100.0	17	6	I31580	I31580 Sequence 32
29	15	100.0	17	6	I31594	I31594 Sequence 46
30	15	100.0	18	6	AR168829	AR168829 Sequence
31	15	100.0	31	6	AR098725	AR098725 Sequence
32	15	100.0	40	6	AR126560	AR126560 Sequence
33	15	100.0	44	6	I76188	I76188 Sequence 7
34	14	93.3	15	6	AR009272	AR009272 Sequence
35	14	93.3	15	6	AR009276	AR009276 Sequence
36	14	93.3	15	6	AR009277	AR009277 Sequence
37	14	93.3	15	6	AR009278	AR009278 Sequence
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39	14	93.3	15	6	AR009280	AR009280 Sequence
40	14	93.3	15	6	AR009281	AR009281 Sequence
41	14	93.3	15	6	AR009282	AR009282 Sequence
42	14	93.3	15	6	AR009283	AR009283 Sequence
43	14	93.3	15	6	AR009284	AR009284 Sequence
44	14	93.3	15	6	AR009285	AR009285 Sequence
45	14	93.3	15	6	AR009286	AR009286 Sequence

ALIGNMENTS

RESULT 1
AR009266
LOCUS AR009266 15 bp DNA linear PAT 04-DEC-1998
DEFINITION Sequence 29 from patent US 5756291.
ACCESSION AR009266
VERSION AR009266.1 GI:3968071
KEYWORDS .
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.
REFERENCE 1 (bases 1 to 15)
AUTHORS Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and Toole,J.J.
TITLE Aptamers specific for biomolecules and methods of making
JOURNAL Patent: US 5756291-A 29 26-MAY-1998;
FEATURES Location/Qualifiers
source 1. .15
/organism="unknown"
BASE COUNT 0 a 0 c 9 g 6 t
ORIGIN

Query Match 100.0%; Score 15; DB 6; Length 15;

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  Best Local Similarity   100.0%;  Pred. No. 3e+03;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db      1 GGTTGGTGTGGTTGG 15


RESULT   2
AR009268
LOCUS       AR009268                 15 bp    DNA     linear   PAT 04-DEC-1998
DEFINITION  Sequence 31 from patent US 5756291.
ACCESSION   AR009268
VERSION     AR009268.1  GI:3968073
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and
            Toole,J.J.
  TITLE     Aptamers specific for biomolecules and methods of making
  JOURNAL   Patent: US 5756291-A 31 26-MAY-1998;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


  Query Match             100.0%;  Score 15;  DB 6;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 3e+03;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT   3
AR009269
LOCUS       AR009269                 15 bp    DNA     linear   PAT 04-DEC-1998
DEFINITION  Sequence 32 from patent US 5756291.
ACCESSION   AR009269
VERSION     AR009269.1  GI:3968074
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and
            Toole,J.J.
  TITLE     Aptamers specific for biomolecules and methods of making
  JOURNAL   Patent: US 5756291-A 32 26-MAY-1998;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


  Query Match             100.0%;  Score 15;  DB 6;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 3e+03;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT   4
AR009273
LOCUS       AR009273                 15 bp    DNA     linear   PAT 04-DEC-1998
DEFINITION  Sequence 36 from patent US 5756291.
ACCESSION   AR009273
VERSION     AR009273.1  GI:3968078
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and
            Toole,J.J.
  TITLE     Aptamers specific for biomolecules and methods of making
  JOURNAL   Patent: US 5756291-A 36 26-MAY-1998;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


  Query Match             100.0%;  Score 15;  DB 6;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 3e+03;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT   5
AR009274
LOCUS       AR009274                 15 bp    DNA     linear   PAT 04-DEC-1998
DEFINITION  Sequence 37 from patent US 5756291.
ACCESSION   AR009274
VERSION     AR009274.1  GI:3968079
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and
            Toole,J.J.
  TITLE     Aptamers specific for biomolecules and methods of making
  JOURNAL   Patent: US 5756291-A 37 26-MAY-1998;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


  Query Match             100.0%;  Score 15;  DB 6;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 3e+03;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT   6
AR009275
LOCUS       AR009275                 15 bp    DNA     linear   PAT 04-DEC-1998
DEFINITION  Sequence 38 from patent US 5756291.
ACCESSION   AR009275
VERSION     AR009275.1  GI:3968080
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and
            Toole,J.J.
  TITLE     Aptamers specific for biomolecules and methods of making
```

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  JOURNAL   Patent: US 5756291-A 38 26-MAY-1998;
FEATURES             Location/Qualifiers
     source          1. .15
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BASE COUNT        0 a      0 c      9 g      6 t
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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15


RESULT   7
AR009316
LOCUS       AR009316                 15 bp    DNA     linear   PAT 04-DEC-1998
DEFINITION  Sequence 79 from patent US 5756291.
ACCESSION   AR009316
VERSION     AR009316.1  GI:3968121
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Griffin,L., Albrecht,G., Latham,J., Leung,L., Vermaas,E. and
            Toole,J.J.
  TITLE     Aptamers specific for biomolecules and methods of making
  JOURNAL   Patent: US 5756291-A 79 26-MAY-1998;
FEATURES             Location/Qualifiers
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Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15


RESULT   8
AR060775
LOCUS       AR060775                 15 bp    DNA     linear   PAT 29-SEP-1999
DEFINITION  Sequence 19 from patent US 5840867.
ACCESSION   AR060775
VERSION     AR060775.1  GI:5987225
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Toole,J.J., Griffin,L.C., Bock,L.C. and Latham,J.A.
  TITLE     Aptamer analogs specific for biomolecules
  JOURNAL   Patent: US 5840867-A 19 24-NOV-1998;
FEATURES             Location/Qualifiers
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                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
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Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15


RESULT   9
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LOCUS       AR060777                 15 bp    DNA     linear   PAT 29-SEP-1999
DEFINITION  Sequence 21 from patent US 5840867.
ACCESSION   AR060777
VERSION     AR060777.1  GI:5987227
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Toole,J.J., Griffin,L.C., Bock,L.C. and Latham,J.A.
  TITLE     Aptamer analogs specific for biomolecules
  JOURNAL   Patent: US 5840867-A 21 24-NOV-1998;
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ORIGIN


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          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  10
AR060778
LOCUS       AR060778                 15 bp    DNA     linear   PAT 29-SEP-1999
DEFINITION  Sequence 22 from patent US 5840867.
ACCESSION   AR060778
VERSION     AR060778.1  GI:5987228
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Toole,J.J., Griffin,L.C., Bock,L.C. and Latham,J.A.
  TITLE     Aptamer analogs specific for biomolecules
  JOURNAL   Patent: US 5840867-A 22 24-NOV-1998;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


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          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  11
AR098723
LOCUS       AR098723                 15 bp    DNA     linear   PAT 14-FEB-2001
DEFINITION  Sequence 81 from patent US 6077668.
ACCESSION   AR098723
VERSION     AR098723.1  GI:12808489
KEYWORDS    .
SOURCE      Unknown.
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  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Kool,E.T.
  TITLE     Highly sensitive multimeric nucleic acid probes
  JOURNAL   Patent: US 6077668-A 81 20-JUN-2000;
FEATURES             Location/Qualifiers
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BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
        1 GGTTGGTGTGGTTGG 15


RESULT  12
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LOCUS       AR125847                 15 bp    DNA     linear   PAT 16-MAY-2001
DEFINITION  Sequence 189 from patent US 6177557.
ACCESSION   AR125847
VERSION     AR125847.1  GI:14111909
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Janjic,N., Gold,L. and Tasset,D.
  TITLE     High affinity ligands of basic fibroblast growth factor and
            thrombin
  JOURNAL   Patent: US 6177557-A 189 23-JAN-2001;
FEATURES             Location/Qualifiers
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                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


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  Best Local Similarity   100.0%;  Pred. No. 3e+03;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

        1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  13
AR168827
LOCUS       AR168827                 15 bp    DNA     linear   PAT 17-DEC-2001
DEFINITION  Sequence 53 from patent US 6288042.
ACCESSION   AR168827
VERSION     AR168827.1  GI:17904949
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Rando,R.F., Ojwaug,J.O., Hogan,M.E., Wallace,T.L. and Cossum,P.A.
  TITLE     Anti-viral guanosine-rich tetrad forming oligonucleotides
  JOURNAL   Patent: US 6288042-A 53 11-SEP-2001;
FEATURES             Location/Qualifiers
     source          1. .15
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BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


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Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  14
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LOCUS       I16587                   15 bp    DNA     linear   PAT 03-APR-1996
DEFINITION  Sequence 1 from patent US 5476766.
ACCESSION   I16587
VERSION     I16587.1  GI:1251495
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Gold,L. and Tasset,D.
  TITLE     Ligands of thrombin
  JOURNAL   Patent: US 5476766-A 1 19-DEC-1995;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  15
I24214
LOCUS       I24214                   15 bp    DNA     linear   PAT 07-OCT-1996
DEFINITION  Sequence 1 from patent US 5543293.
ACCESSION   I24214
VERSION     I24214.1  GI:1604084
KEYWORDS    .
SOURCE      Unknown.
  ORGANISM  Unknown.
            Unclassified.
REFERENCE   1  (bases 1 to 15)
  AUTHORS   Gold,L. and Tasset,D.
  TITLE     DNA ligands of thrombin
  JOURNAL   Patent: US 5543293-A 1 06-AUG-1996;
FEATURES             Location/Qualifiers
     source          1. .15
                     /organism="unknown"
BASE COUNT        0 a      0 c      9 g      6 t
ORIGIN


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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


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GenCore version 4.5

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Perfect score: 15
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Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 1736436 seqs, 858457221 residues

Total number of hits satisfying chosen parameters: 1905168

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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	15	100.0	15	13	AAQ28472	Thrombin aptamer.
2	15	100.0	15	13	AAQ28474	Modified thrombin
3	15	100.0	15	13	AAQ28477	Modified thrombin
4	15	100.0	15	13	AAQ28478	Modified thrombin
5	15	100.0	15	13	AAQ28475	Modified thrombin
6	15	100.0	15	13	AAQ28476	Modified thrombin
7	15	100.0	15	13	AAQ28479	Modified thrombin
8	15	100.0	15	13	AAQ28480	Modified thrombin
9	15	100.0	15	13	AAQ28481	Modified thrombin
10	15	100.0	15	15	AAQ63005	G15D ligand to thr
11	15	100.0	15	17	AAT86653	Spectroscopically
12	15	100.0	15	17	AAT28615	Quadruplex/duplex
13	15	100.0	15	17	AAT17808	Glycosaminoglycan-
14	15	100.0	15	18	AAT51669	Viral integrase in
15	15	100.0	15	18	AAT85811	Thrombin-binding n
16	15	100.0	15	18	AAT80048	Thrombin binding l
17	15	100.0	15	19	AAX79251	Oligonucleotide #4
18	15	100.0	15	19	AAV60407	Thrombin-binding a
19	15	100.0	15	19	AAV60408	Thrombin-binding a
20	15	100.0	15	19	AAV60409	Thrombin-binding a
21	15	100.0	15	19	AAV60400	Modified thrombin-
22	15	100.0	15	19	AAV60402	Thioate linked thr
23	15	100.0	15	19	AAV60403	Thioate linked thr
24	15	100.0	15	19	AAV60450	Consensus sequence
25	15	100.0	15	19	AAT97947	G-quartet oligonuc
26	15	100.0	15	20	AAX33613	Thrombin inhibitor
27	15	100.0	15	20	AAX30059	DNA oligonucleotid
28	15	100.0	15	20	AAX25874	Nucleic acid ligan
c 29	15	100.0	15	20	AAX25877	Reversing agent #2
30	15	100.0	15	22	AAF70727	Oligonucleotide G1
31	15	100.0	15	22	AAF24185	Tight binding comp
32	15	100.0	15	22	AAC91744	Thrombin-binding a
33	15	100.0	15	22	AAC88063	Thrombin aptamer b
34	15	100.0	17	13	AAQ28473	Modified thrombin
35	15	100.0	17	18	AAT51670	Viral integrase in
36	15	100.0	17	19	AAX79252	Oligonucleotide #4
37	15	100.0	17	19	AAV60401	MEA-linked thrombi
38	15	100.0	17	19	AAV60484	Thrombin-binding a
39	15	100.0	17	19	AAV60470	Thrombin-binding a
40	15	100.0	18	18	AAT51671	Viral integrase in
41	15	100.0	18	19	AAX79253	Oligonucleotide #4
42	15	100.0	19	22	AAC88064	Thrombin aptamer b
43	15	100.0	20	22	AAC88065	Thrombin aptamer b
44	15	100.0	20	22	AAC88068	Thrombin aptamer b
45	15	100.0	21	22	AAC88066	Thrombin aptamer b

ALIGNMENTS

RESULT 1
AAQ28472
ID AAQ28472 standard; DNA; 15 BP.
XX
AC AAQ28472;
XX
DT 16-FEB-1993 (first entry)
XX
DE Thrombin aptamer.
XX
KW Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW cleavage; ss.
XX
OS Synthetic.
XX
PN WO9214843-A.
XX
PD 03-SEP-1992.
XX
PF 21-FEB-1992; 92WO-US01383.
XX
PR 21-FEB-1991; 91US-0658796.
PR 21-FEB-1991; 91US-0658849.
PR 21-FEB-1991; 91US-0659103.
PR 21-FEB-1991; 91US-0659113.
PR 21-FEB-1991; 91US-0659114.
PR 21-FEB-1991; 91US-0659980.
PR 21-FEB-1991; 91US-0659981.
PR 14-AUG-1991; 91US-0744870.
PR 14-AUG-1991; 91US-0745215.
PR 06-NOV-1991; 91US-0787921.
XX

```
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC, Griffin LC, Krawczyk S, Latham JA, Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 119; 183pp; English.
XX
CC   The sequences given in AAQ28473-78 are aptamers which are based on the
CC   unmodified thrombin aptamer given in AAQ28472.  These aptamers bind
CC   to thrombin inhibiting its activity, except for the aptamer sequence
CC   given in AAQ28475 which was required in very large quantities to inhibit
CC   thrombin activity.  These aptamers are stable, verstaile and highly
     specific to their intended targets.  They can be used to deliver
     auxillary substances, eg. drugs, toxins, radio isotopes etc. to a
     specific part of the body.  The aptamers have a binding region of
CC   approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
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Db      1 ggttggtgtggttgg 15


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ID   AAQ28474 standard; DNA; 15 BP.
XX
AC   AAQ28474;
XX
DT   16-FEB-1993  (first entry)
XX
DE   Modified thrombin aptamer #2.
XX
KW   Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW   cleavage; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   misc_difference 13..14
FT                   /*tag=  a
FT                   /note= "The linkage between T13 and G14 is a
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FT   misc_difference 14..15
FT                   /*tag=  b
FT                   /note= "The linkage between G14 and G15 is a
FT                          thioate linkage"
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PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
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PR   21-FEB-1991;   91US-0658796.
PR   21-FEB-1991;   91US-0658849.
PR   21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
PR   21-FEB-1991;   91US-0659980.
PR   21-FEB-1991;   91US-0659981.
PR   14-AUG-1991;   91US-0744870.
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PR   06-NOV-1991;   91US-0787921.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC, Griffin LC, Krawczyk S, Latham JA, Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 119; 183pp; English.
XX
CC   The sequences given in AAQ28473-78 are aptamers which are based on the
CC   unmodified thrombin aptamer given in AAQ28472.  These aptamers bind
CC   to thrombin inhibiting its activity, except for the aptamer sequence
CC   given in AAQ28475 which was required in very large quantities to inhibit
CC   thrombin activity.  These aptamers are stable, verstaile and highly
CC   specific to their intended targets.  They can be used to deliver
CC   auxillary substances, eg. drugs, toxins, radio isotopes etc. to a
CC   specific part of the body.  The aptamers have a binding region of
CC   approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


RESULT   3
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ID   AAQ28477 standard; DNA; 15 BP.
XX
AC   AAQ28477;
XX
DT   16-FEB-1993  (first entry)
XX
DE   Modified thrombin aptamer #5.
XX
KW   Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW   cleavage; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   3
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FT                   /label= 5-(1-pentynyl)-2'-deoxyuridine
FT   modified_base   12
FT                   /*tag=  b
FT                   /label= 5-(1-pentynyl)-2'-deoxyuridine
XX
PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
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PR   21-FEB-1991;   91US-0658796.
PR   21-FEB-1991;   91US-0658849.
PR   21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
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PR 21-FEB-1991; 91US-0659980.
PR 21-FEB-1991; 91US-0659981.
PR 14-AUG-1991; 91US-0744870.
PR 14-AUG-1991; 91US-0745215.
PR 06-NOV-1991; 91US-0787921.
XX
PA (GILE-) GILEAD SCI INC.
XX
PI Bock LC, Griffin LC, Krawczyk S, Latham JA, Toole JJ;
PI Muenchau DD;
XX
DR WPI; 1992-316194/38.
XX
PT DNA aptamers specifically binding target molecules - useful for
PT retrieving target molecules, delivering drugs or toxins to
PT desired targets and for treating auto-immune diseases
XX
PS Disclosure; Page 119; 183pp; English.
XX
CC The sequences given in AAQ28473-78 are aptamers which are based on the
CC unmodified thrombin aptamer given in AAQ28472. These aptamers bind
CC to thrombin inhibiting its activity, except for the aptamer sequence
CC given in AAQ28475 which was required in very large quantities to inhibit
CC thrombin activity. These aptamers are stable, verstaile and highly
CC specific to their intended targets. They can be used to deliver
CC auxillary substances, eg. drugs, toxins, radio isotopes etc. to a
CC specific part of the body. The aptamers have a binding region of
CC approx. 10 nucleotide residues.
XX
SQ Sequence 15 BP; 0 A; 0 C; 9 G; 4 T; 0 other;

Query Match 100.0%; Score 15; DB 13; Length 15;
Best Local Similarity 86.7%; Pred. No. 4.4e+02;
Matches 13; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ggttggtgtggttgg 15
||:|||||||:|||
Db 1 ggutggtgtggutgg 15

RESULT 4
AAQ28478
ID AAQ28478 standard; DNA; 15 BP.
XX
AC AAQ28478;
XX
DT 16-FEB-1993 (first entry)
XX
DE Modified thrombin aptamer #6.
XX
KW Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW cleavage; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 13
FT /*tag= a
FT /label= 5-(1-pentynyl)uracil
XX
PN WO9214843-A.
XX
PD 03-SEP-1992.
XX
PF 21-FEB-1992; 92WO-US01383.
XX
PR 21-FEB-1991; 91US-0658796.
PR 21-FEB-1991; 91US-0658849.
PR 21-FEB-1991; 91US-0659103.
PR 21-FEB-1991; 91US-0659113.
PR 21-FEB-1991; 91US-0659114.
PR 21-FEB-1991; 91US-0659980.
PR 21-FEB-1991; 91US-0659981.
PR 14-AUG-1991; 91US-0744870.
PR 14-AUG-1991; 91US-0745215.
PR 06-NOV-1991; 91US-0787921.
XX
PA (GILE-) GILEAD SCI INC.
XX
PI Bock LC, Griffin LC, Krawczyk S, Latham JA, Toole JJ;
PI Muenchau DD;
XX
DR WPI; 1992-316194/38.
XX
PT DNA aptamers specifically binding target molecules - useful for
PT retrieving target molecules, delivering drugs or toxins to
PT desired targets and for treating auto-immune diseases
XX
PS Disclosure; Page 119; 183pp; English.
XX
CC The sequences given in AAQ28473-78 are aptamers which are based on the
CC unmodified thrombin aptamer given in AAQ28472. These aptamers bind
CC to thrombin inhibiting its activity, except for the aptamer sequence
CC given in AAQ28475 which was required in very large quantities to inhibit
CC thrombin activity. These aptamers are stable, verstaile and highly
CC specific to their intended targets. They can be used to deliver
CC auxillary substances, eg. drugs, toxins, radio isotopes etc. to a
CC specific part of the body. The aptamers have a binding region of
CC approx. 10 nucleotide residues.
XX
SQ Sequence 15 BP; 0 A; 0 C; 9 G; 5 T; 0 other;

Query Match 100.0%; Score 15; DB 13; Length 15;
Best Local Similarity 93.3%; Pred. No. 4.4e+02;
Matches 14; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ggttggtgtggttgg 15
||||||||||||:||
Db 1 ggttggtgtggtugg 15

RESULT 5
AAQ28475
ID AAQ28475 standard; DNA; 15 BP.
XX
AC AAQ28475;
XX
DT 16-FEB-1993 (first entry)
XX
DE Modified thrombin aptamer #3.
XX
KW Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW cleavage; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT misc_difference 1..2
FT /*tag= a
FT /note= "The linkage between G1 and G2 is a
FT thioate linkage"
FT misc_difference 2..3
FT /*tag= b
FT /note= "The linkage between G2 and T3 is a
FT thioate linkage"
FT misc_difference 3..4
FT /*tag= c
FT /note= "The linkage between T3 and T4 is a
FT thioate linkage"
FT misc_difference 4..5
FT /*tag= d
FT /note= "The linkage between T4 and G5 is a
FT thioate linkage"
FT misc_difference 5..6

```
FT                   /*tag=  e
FT                   /note= "The linkage between G5 and G6 is a
FT                          thioate linkage"
FT   misc_difference 6..7
FT                   /*tag=  f
FT                   /note= "The linkage between G6 and T7 is a
FT                          thioate linkage"
FT   misc_difference 7..8
FT                   /*tag=  g
FT                   /note= "The linkage between T7 and G8 is a
FT                          thioate linkage"
FT   misc_difference 8..9
FT                   /*tag=  h
FT                   /note= "The linkage between G8 and T9 is a
FT                          thioate linkage"
FT   misc_difference 9..10
FT                   /*tag=  i
FT                   /note= "The linkage between T9 and G10 is a
                            thioate linkage"
     misc_difference 10..11
                     /*tag=  j
FT                   /note= "The linkage between G10 and G11 is a
FT                          thioate linkage"
FT   misc_difference 11..12
FT                   /*tag=  k
FT                   /note= "The linkage between G11 and T12 is a
FT                          thioate linkage"
FT   misc_difference 12..13
FT                   /*tag=  l
FT                   /note= "The linkage between T12 and T13 is a
FT                          thioate linkage"
FT   misc_difference 13..14
FT                   /*tag=  m
FT                   /note= "The linkage between T13 and G14 is a
FT                          thioate linkage"
FT   misc_difference 14..15
FT                   /*tag=  n
FT                   /note= "The linkage between G14 and G15 is a
FT                          thioate linkage"
XX
PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
XX
PR   21-FEB-1991;   91US-0658796.
PR   21-FEB-1991;   91US-0658849.
PR   21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
PR   21-FEB-1991;   91US-0659980.
PR   21-FEB-1991;   91US-0659981.
PR   14-AUG-1991;   91US-0744870.
PR   14-AUG-1991;   91US-0745215.
PR   06-NOV-1991;   91US-0787921.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC, Griffin LC, Krawczyk S, Latham JA, Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 119; 183pp; English.
XX
CC   The sequences given in AAQ28473-78 are aptamers which are based on the
CC   unmodified thrombin aptamer given in AAQ28472. These aptamers bind
CC   to thrombin inhibiting its activity, except for the aptamer sequence
CC   given in AAQ28475 which was required in very large quantities to inhibit
CC   thrombin activity. These aptamers are stable, verstaile and highly
CC   specific to their intended targets. They can be used to deliver
CC   auxillary substances, eg. drugs, toxins, radio isotopes etc. to a
CC   specific part of the body. The aptamers have a binding region of
CC   approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 ggttggtgtggttgg 15
           |||||||||||||||
Db       1 ggttggtgtggttgg 15


RESULT   6
AAQ28476
ID   AAQ28476 standard; DNA; 15 BP.
XX
AC   AAQ28476;
XX
DT   16-FEB-1993  (first entry)
XX
DE   Modified thrombin aptamer #4.
XX
KW   Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW   cleavage; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   7
FT                   /*tag=  a
FT                   /label= 5-(1-pentynyl)-2'-deoxyuridine
FT   modified_base   9
FT                   /*tag=  b
FT                   /label= 5-(1-pentynyl)-2'-deoxyuridine
XX
PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
XX
PR   21-FEB-1991;   91US-0658796.
PR   21-FEB-1991;   91US-0658849.
PR   21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
PR   21-FEB-1991;   91US-0659980.
PR   21-FEB-1991;   91US-0659981.
PR   14-AUG-1991;   91US-0744870.
PR   14-AUG-1991;   91US-0745215.
PR   06-NOV-1991;   91US-0787921.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC, Griffin LC, Krawczyk S, Latham JA, Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 119; 183pp; English.
XX
CC   The sequences given in AAQ28473-78 are aptamers which are based on the
```

```
CC   unmodified thrombin aptamer given in AAQ28472.  These aptamers bind
CC   to thrombin inhibiting its activity, except for the aptamer sequence
CC   given in AAQ28475 which was required in very large quantities to inhibit
CC   thrombin activity.  These aptamers are stable, verstaile and highly
CC   specific to their intended targets.  They can be used to deliver
CC   auxillary substances, eg. drugs, toxins, radio isotopes etc. to a
CC   specific part of the body.  The aptamers have a binding region of
CC   approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 4 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
  Best Local Similarity   86.7%;  Pred. No. 4.4e+02;
  Matches   13;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          ||||||:|:||||||
Db      1 ggttgguguggttgg 15


ULT   7
28479
ID   AAQ28479 standard; DNA; 15 BP.
XX
AC   AAQ28479;
XX
DT   16-FEB-1993  (first entry)
XX
DE   Modified thrombin aptamer #7.
XX
KW   Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW   cleavage; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   misc_difference 3..4
FT                   /*tag=  a
FT                   /note= "The linkage between T3 and T4 is a
FT                           formacetal internucleotide linkage"
FT
XX
PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
XX
PR   21-FEB-1991;   91US-0658796.
PR   21-FEB-1991;   91US-0658849.
PR   21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
PR   21-FEB-1991;   91US-0659980.
PR   21-FEB-1991;   91US-0659981.
PR   14-AUG-1991;   91US-0744870.
PR   14-AUG-1991;   91US-0745215.
PR   06-NOV-1991;   91US-0787921.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC,  Griffin LC,  Krawczyk S,  Latham JA,  Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 121; 183pp; English.
XX
CC   The sequences given in AAQ28479-81 are aptamers which are based on the
CC   unmodified thrombin aptamer given in AAQ28472.  These aptamers all
CC   contain at least one formacetal internucleotide linkages.  These
CC   aptamers bind to thrombin inhibiting its activity.  These aptamers
CC   are stable, verstaile and highly specific to their intended targets.
CC   They can be used to deliver auxillary substances, eg. drugs, toxins,
CC   radio isotopes etc. to a specific part of the body.  The aptamers have
CC   a binding region of approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


RESULT   8
AAQ28480
ID   AAQ28480 standard; DNA; 15 BP.
XX
AC   AAQ28480;
XX
DT   16-FEB-1993  (first entry)
XX
DE   Modified thrombin aptamer #8.
XX
KW   Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW   cleavage; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   misc_difference 12..13
FT                   /*tag=  a
FT                   /note= "The linkage between T12 and T13 is a
FT                           formacetal internucleotide linkage"
FT
XX
PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
XX
PR   21-FEB-1991;   91US-0658796.
PR   21-FEB-1991;   91US-0658849.
PR   21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
PR   21-FEB-1991;   91US-0659980.
PR   21-FEB-1991;   91US-0659981.
PR   14-AUG-1991;   91US-0744870.
PR   14-AUG-1991;   91US-0745215.
PR   06-NOV-1991;   91US-0787921.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC,  Griffin LC,  Krawczyk S,  Latham JA,  Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 121; 183pp; English.
XX
CC   The sequences given in AAQ28479-81 are aptamers which are based on the
CC   unmodified thrombin aptamer given in AAQ28472.  These aptamers all
```

```
CC   contain at least one formacetal internucleotide linkages.  These
CC   aptamers bind to thrombin inhibiting its activity.  These aptamers
CC   are stable, verstaile and highly specific to their intended targets.
CC   They can be used to deliver auxillary substances, eg. drugs, toxins,
CC   radio isotopes etc. to a specific part of the body.  The aptamers have
CC   a binding region of approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


ULT   9
28481
ID   AAQ28481 standard; DNA; 15 BP.
XX
AC   AAQ28481;
XX
DT   16-FEB-1993  (first entry)
XX
DE   Modified thrombin aptamer #9.
XX
KW   Aptamer; specifically binding oligonucleotides; primer/linker; PCR;
KW   cleavage; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   misc_difference 12..13
FT                   /*tag=  a
FT                   /note= "The linkage between T12 and T13 is a
FT                          formacetal internucleotide linkage"
XX
PN   WO9214843-A.
XX
PD   03-SEP-1992.
XX
PF   21-FEB-1992;   92WO-US01383.
XX
     21-FEB-1991;   91US-0658796.
     21-FEB-1991;   91US-0658849.
     21-FEB-1991;   91US-0659103.
PR   21-FEB-1991;   91US-0659113.
PR   21-FEB-1991;   91US-0659114.
PR   21-FEB-1991;   91US-0659980.
PR   21-FEB-1991;   91US-0659981.
PR   14-AUG-1991;   91US-0744870.
PR   14-AUG-1991;   91US-0745215.
PR   06-NOV-1991;   91US-0787921.
XX
PA   (GILE-) GILEAD SCI INC.
XX
PI   Bock LC,  Griffin LC,  Krawczyk S,  Latham JA,  Toole JJ;
PI   Muenchau DD;
XX
DR   WPI; 1992-316194/38.
XX
PT   DNA aptamers specifically binding target molecules - useful for
PT   retrieving target molecules, delivering drugs or toxins to
PT   desired targets and for treating auto-immune diseases
XX
PS   Disclosure; Page 121; 183pp; English.
XX
CC   The sequences given in AAQ28479-81 are aptamers which are based on the
CC   unmodified thrombin aptamer given in AAQ28472.  These aptamers all
CC   contain at least one formacetal internucleotide linkages.  These
CC   aptamers bind to thrombin inhibiting its activity.  These aptamers
CC   are stable, verstaile and highly specific to their intended targets.
CC   They can be used to deliver auxillary substances, eg. drugs, toxins,
CC   radio isotopes etc. to a specific part of the body.  The aptamers have
CC   a binding region of approx. 10 nucleotide residues.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 13;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


RESULT  10
AAQ63005
ID   AAQ63005 standard; DNA; 15 BP.
XX
AC   AAQ63005;
XX
DT   07-NOV-1994  (first entry)
XX
DE   G15D ligand to thrombin.
XX
KW   Thrombin; coagulation; adhesion; blood clot; clot formation;
KW   ligand; binding; ss.
XX
OS   Synthetic.
XX
PN   WO9408050-A.
XX
PD   14-APR-1994.
XX
PF   28-SEP-1993;   93WO-US09296.
XX
PR   29-SEP-1992;   92US-0953694.
PR   21-OCT-1992;   92US-0964624.
PR   06-NOV-1992;   92US-0973333.
PR   22-APR-1993;   93US-0061691.
XX
PA   (NEXA-) NEXAGEN INC.
XX
PI   Gold LM,  Janjic N,  Tasset D,  Tuerk C;
XX
DR   WPI; 1994-135610/16.
XX
PT   Producing target specific nucleic acid ligands - by selection for
PT   high affinity then structure determination, esp directed against
PT   HIV proteins, thrombin or basic fibroblast growth factor
XX
PS   Disclosure; Page 20; 208pp; English.
XX
CC   The synthetic ligand was produced by a method identical to the SELEX
CC   procedure.  The ligand can prevent clot formation in vitro.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 15;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


RESULT  11
AAT86653
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```
ID   AAT86653 standard; DNA; 15 BP.
XX
AC   AAT86653;
XX
DT   08-MAY-1998  (first entry)
XX
DE   Spectroscopically detectable nucleic acid ligand compound #1.
XX
KW   Spectroscopically detectable; detection; phosphorothioate;
KW   fluorescein; thiazole orange; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1
FT                   /*tag=  a
FT                   /note= "Guanine1 optionally labeled with fluorescein via
FT                          a C6 linker molecule or labeled with Thiazole
FT                          Orange via a C3 linker"
FT   misc_feature    6..7
FT                   /*tag=  b
FT                   /note= "Guanine6 and Thymine7 optionally linked via
FT                          a phosphorothioate bond"
FT   modified_base   7
FT                   /*tag=  c
FT                   /note= "Thymine7 phosphorothioate when present is
FT                          linked to fluorescein via iodoacetamide."
XX
PN   WO9622383-A1.
XX
PD   25-JUL-1996.
XX
PF   21-JUL-1995;   95WO-US09237.
XX
PR   20-JAN-1995;   95US-0376329.
XX
PA   (BECT ) BECTON DICKINSON CO.
PA   (NEXS-) NEXSTAR PHARM INC.
XX
PI   Gold L,  Malinowski DP,  Pitner JB,  Vonk GP;
XX
DR   WPI; 1996-354540/35.
XX
PT   Detection of target cpds. such as thrombin - using spectroscopically
PT   detectable nucleic acid ligands
XX
PS   Claims 7 and 11; Figure 1; 37pp; English.
XX
CC   This sequence represents spectroscopically detectable nucleic acid
CC   ligands which were used to detect the presence or absence of a target
CC   compound (thrombin) in a sample. This ligand can also be used for
CC   monitoring the binding of target compounds (such as growth factors) to
CC   their receptors in competition-based assays. It is thus useful in
CC   diagnostic assays. Spectroscopically detectable nucleic acid
CC   ligands of the invention may be used to detect e.g. thrombin, elastase,
CC   cell surface markers, growth factors, growth factor receptors, whole
CC   cells or viral particles present in biological samples such as blood.
CC   The receptor molecules are typically relatively small in relation to
CC   traditional receptor molecules such as antibodies. Any additional weight
CC   or volume added to the receptor molecules (even in the form of a small
CC   target) will significantly increase the weight or volume of the
CC   labelled receptor molecule and therefore permit detection of the
CC   relatively significant energy differences involved (between bound and
CC   unbound labelled receptor molecules).
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;

  Query Match             100.0%;  Score 15;  DB 17;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 ggttggtgtggttgg 15
           |||||||||||||||
Db       1 ggttggtgtggttgg 15
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RESULT  12
AAT28615
ID   AAT28615 standard; DNA; 15 BP.
XX
AC   AAT28615;
XX
DT   14-NOV-1996  (first entry)
XX
DE   Quadruplex/duplex thrombin inhibitor consensus sequence #3.
XX
KW   Thrombin; inhibitor; quadruplex/duplex structure; multimeric compound;
KW   quadruplex motif; telomerase; nuclease resistant; diagnostic probe;
KW   therapy; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   misc_feature    1..2
FT                   /*tag=  a
FT                   /note= "bases involved in quadruplex formation"
FT   misc_feature    4
FT                   /*tag=  b
FT                   /note= "forms base pair with T at position 13"
FT   misc_feature    5..6
FT                   /*tag=  c
FT                   /note= "bases involved in quadruplex formation"
FT   misc_feature    10..11
FT                   /*tag=  d
FT                   /note= "bases involved in quadruplex formation"
FT   misc_feature    13
FT                   /*tag=  e
FT                   /note= "forms base pair with T at position 4"
FT   misc_feature    14..15
FT                   /*tag=  f
FT                   /note= "bases involved in quadruplex formation"
XX
PN   WO9611010-A1.
XX
PD   18-APR-1996.
XX
PF   20-SEP-1995;   95WO-US11985.
XX
PR   07-OCT-1994;   94US-0320139.
XX
PA   (PHAR-) PHARMAGENICS INC.
XX
PI   Bertelsen AH,  Beutel BA,  Cook AF,  Gao H,  Joesten ME;
PI   Macaya RF;
XX
DR   WPI; 1996-209651/21.
XX
PT   Single stranded oligo:deoxy:ribonucleotide thrombin inhibitors -
PT   comprise quadruplex consensus motif either flanked by complementary
PT   sequences which form duplex-stem or having bridged termini
XX
PS   Example; Page 41; 61pp; English.
XX
CC   AAT28613-T28615, and AAT28626 represent consensus sequences for the
CC   thrombin inhibitors of the invention.  The sequences can be used to
CC   inhibit and to detect thrombin activity.  These sequences form
CC   quadruplex/duplex structures, and can also form multimeric compounds.
CC   The inhibitors of the invention bind thrombin with a higher affinity than
CC   quadruplex structures that lack the duplex stem (such as this sequence).
CC   By bridging the 5' and 3' ends of these structures may optimise their use
CC   as inhibitors to targets other than thrombin, such as telomerase.  The
CC   secondary structures formed by these sequences result in molecules which
CC   are constrained to the most biologically active conformation.  The
CC   bridged molecules are up to 45 times more nuclease resistant than the
CC   unbridged molecules.  These sequences can be used as diagnostic probes
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CC   to monitor the presence of thrombin, and thereby determine whether there
CC   is a need to modulate its function or activity. The inhibitors can also
CC   be administered to a cell in order to prevent the deleterious
CC   consequences of overproduction of thrombin, or to effect the benefits of
CC   inhibition of thrombin function.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 17;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


RESULT  13
[redacted]17808
     AAT17808 standard; DNA; 15 BP.
XX
AC   AAT17808;
XX
DT   30-OCT-1996  (first entry)
XX
DE   Glycosaminoglycan-degrading enzyme inhibitor LG1PS.
XX
KW   Glycosaminoglycan-degrading enzyme; GDE; inhibitor; endoglycosidase;
KW   heparanase; heparitinase; mammalian; bacterial; platelet; macrophage;
KW   neutrophil; leukocyte; endothelial cell; smooth muscle cell; carcinoma;
KW   tumour cell; activation; proliferation; migration; cancer; inflammation;
KW   autoimmune disorder; infection; pathogenic organism; atherosclerosis;
KW   cardiovascular disease; vascular hyperplasia; restenosis; therapy; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1..15
FT                   /*tag=  a
FT                   /note= "optionally phosphorothioated, or
FT                          phosphorodithioated backbone"
XX
PN   WO9608559-A1.
XX
PD   21-MAR-1996.
XX
[redacted]   13-SEP-1995;   95WO-AU00600.

PR   14-AUG-1995;   95AU-0004769.
PR   16-SEP-1994;   94AU-0008226.
PR   16-SEP-1994;   94AU-0008227.
XX
PA   (CARD-) CARDIAC CRC NOMINEES PTY LTD.
XX
PI   Graham L,  Underwood PA;
XX
DR   WPI; 1996-179936/18.
XX
PT   Oligo:nucleotide(s) having sulphur substns. between nucleoside(s)  -
PT   for inhibiting glycosaminoglycan-degrading enzymes, for treating,
PT   e.g. cancer, inflammation, infection or autoimmune disorders.
XX
PS   Example 2; Page 33; 73pp; English.
XX
CC   AAT17805-T17808, and AAT17810-T17813 represent
CC   glycosaminoglycan-degrading enzyme (GDE) inhibitors.  The GDEs which
CC   these sequences inhibit are endoglycosidases (which cleave
CC   glycosaminoglycan chains at internal sites), preferably heparanases (also
CC   known as heparitinases) of mammalian or bacterial origin.  These
CC   sequences can be used for inhibiting GDEs associated with platelets,
CC   macrophages, neutrophils, leukocytes, endothelial cells, smooth muscle
CC   cells, carcinoma and tumour cells, and bacteria.  They can also be used
CC   to inhibit smooth muscle cell activation, proliferation or migration.
CC   The sequences can be used to treat cancer, inflammation, autoimmune
CC   disorders, infection caused by pathogenic organisms, and cardiovascular
CC   disease, such as vascular hyperplasia, restenosis and atherosclerosis.
CC   These inhibitors can also be used as biochemical reagents for studying
CC   GDE activities and mechanisms of enzyme activity.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 17;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db      1 ggttggtgtggttgg 15


RESULT  14
AAT51669
ID   AAT51669 standard; DNA; 15 BP.
XX
AC   AAT51669;
XX
DT   12-NOV-1997  (first entry)
XX
DE   Viral integrase inhibiting oligonucleotide.
XX
KW   Human immunodeficiency virus; HIV; Epstein Barr virus; EBV;
KW   herpes simplex virus; HSV; human papilloma virus; HPV; adenovirus;
KW   respiratory syncytial virus; RSV; cytomegalovirus; CMV; hepatitis B;
KW   integrase inhibition; guanosine tetrad; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1..15
FT                   /*tag=  a
FT                   /note= "optionally contains all phosphorothiate
FT                          linkages or a phosphorothioate linkage
FT                          between penultimate and last nucleotide
FT                          at 3' end"
XX
PN   WO9703997-A1.
XX
PD   06-FEB-1997.
XX
PF   17-JUL-1996;   96WO-US11786.
XX
PR   23-APR-1996;   96US-0016271.
PR   19-JUL-1995;   95US-0001505.
PR   23-OCT-1995;   95US-0535168.
PR   19-MAR-1996;   96US-0013688.
PR   25-MAR-1996;   96US-0014007.
PR   17-APR-1996;   96US-0015714.
XX
PA   (ARON-) ARONEX PHARM INC.
XX
PI   Fennewald S,  Hogan ME,  Mazumder A,  Ojwang JO,  Pommier Y;
PI   Rando RF, Zendegui JG;
XX
DR   WPI; 1997-132569/12.
XX
PT   Oligo:nucleotide(s) capable of forming guanosine tetrads - inhibit
PT   viral enzyme responsible for integrating viral nucleic acid into the
PT   host genome
XX
PS   Claim 3; Page 81; 245pp; English.
XX
CC   AAT51619-T51698 are oligonucleotides used to inhibit the production
CC   of viruses within a host cell. The oligonucleotides may form guanosine
CC   tetrads (structures formed of eight hydrogen bonds by coordination of
```

```
CC   the four oxygen atoms of guanine with alkali cations believed to bind
CC   to the centre of a quadruplex, and by strong stacking interactions) and
CC   are used to prevent the integration of viral nucleic acid into a host
CC   genome. The oligonucleotides inhibit functioning of the integrase enzyme
CC   and hence prevent viral infection. Viral infections that may be treated
CC   include human immunodeficiency virus (HIV), Epstein Barr virus (EBV),
CC   herpes simplex virus (HSV), human papilloma virus (HPV), adenovirus,
CC   respiratory syncytial virus (RSV), cytomegalovirus (CMV) and hepatitis
CC   B virus (HBV), especially HIV-1 infection.
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 18;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 ggttggtgtggttgg 15


SULT 15
AAT85811
ID   AAT85811 standard; DNA; 15 BP.
XX
AC   AAT85811;
XX
DT   11-NOV-1997  (first entry)
XX
DE   Thrombin-binding nucleic acid ligand.
XX
KW   Thiazole orange; fluorescein; spectroscopic assay;
KW   fluorescence polarisation detection; thrombin; ss.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   modified_base   1
FT                   /*tag= a
FT                   /note= "5'-Labelled either with thiazole orange via
FT                          aminopropyl C3 linker arm (= Compound 3) or
FT                          with fluorescein via a C6 linker arm
FT                          (= Compound 1)"
XX
PN   US5650275-A.
XX
PD   22-JUL-1997.
XX
     18-JUL-1994;   94US-0276271.

PR   18-MAY-1995;   95US-0443957.
PR   11-JUN-1990;   90US-0536428.
PR   10-JUN-1991;   91US-0714131.
PR   17-AUG-1992;   92US-0931473.
PR   07-OCT-1993;   93US-0134028.
PR   28-APR-1994;   94US-0234997.
PR   18-JUL-1994;   94US-0276271.
XX
PA   (GOLD/) GOLD L.
PA   (MALI/) MALINOWSKI D P.
PA   (PITN/) PITNER J B.
PA   (VONK/) VONK G P.
XX
PI   Gold L,  Malinowski DP,  Pitner JB,  Vonk GP;
XX
DR   WPI; 1997-384664/35.
XX
PT   Determining the presence of target compounds such as thrombin or
PT   elastase - using spectroscopically detectable labelled nucleic acid
PT   ligands and measurement of spectroscopic emissions.
XX
PS   Claim 6 and Claim 15; Column 8; 14pp; English.
XX
CC   Spectroscopically detectable labelled nucleic acid ligands are used
CC   in a claimed method for determining the presence of a target compound
CC   in a sample. An increase in the spectroscopic emission of the
CC   ligand in the presence of a sample relative to the ligand alone is
CC   indicative of the presence of the target compound in the sample.
CC   Target molecules may be proteins, peptides, cell surface markers,
CC   carbohydrates, polysaccharides, glycoproteins, hormones, receptors,
CC   antigens, antibodies, co-factors, inhibitors, drugs, dyes, nutrients,
CC   growth factors, amino acids, ATP, whole cells or viral particles.
CC   The present sequence is a preferred nucleic acid ligand for
CC   detecting thrombin. When labelled with fluorescein it is designated
CC   Compound 1 (claim 6) and when labelled with thiazole orange it is
CC   designated Compound 3 (claim 15).
XX
SQ   Sequence 15 BP; 0 A; 0 C; 9 G; 6 T; 0 other;


  Query Match             100.0%;  Score 15;  DB 18;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.4e+02;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
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Db      1 ggttggtgtggttgg 15


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Job time: 2148 sec
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GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 6, 2002, 15:32:59 ; Search time 51.8 Seconds
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Title: US-09-599-220-1
Perfect score: 15
Sequence: 1 ggttggtgtggttgg 15

Scoring table: IDENTITY_NUC
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Searched: 383533 seqs, 122816752 residues

Total number of hits satisfying chosen parameters: 543772

Minimum DB seq length: 0
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	15	100.0	15	1	US-07-973-333-1	Sequence 1, Appli
2	15	100.0	15	1	US-08-219-012-1	Sequence 1, Appli
3	15	100.0	15	1	US-08-376-329-1	Sequence 1, Appli
4	15	100.0	15	1	US-08-276-271-1	Sequence 1, Appli
5	15	100.0	15	1	US-08-539-516-4	Sequence 4, Appli
6	15	100.0	15	1	US-08-614-447-4	Sequence 4, Appli
7	15	100.0	15	1	US-08-703-755A-3	Sequence 3, Appli
8	15	100.0	15	1	US-08-484-192-29	Sequence 29, Appl
9	15	100.0	15	1	US-08-484-192-31	Sequence 31, Appl
10	15	100.0	15	1	US-08-484-192-32	Sequence 32, Appl
11	15	100.0	15	1	US-08-484-192-36	Sequence 36, Appl
12	15	100.0	15	1	US-08-484-192-37	Sequence 37, Appl
13	15	100.0	15	1	US-08-484-192-38	Sequence 38, Appl
14	15	100.0	15	1	US-08-484-192-79	Sequence 79, Appl
15	15	100.0	15	2	US-08-237-973-19	Sequence 19, Appl
16	15	100.0	15	2	US-08-237-973-21	Sequence 21, Appl
17	15	100.0	15	2	US-08-237-973-22	Sequence 22, Appl
18	15	100.0	15	2	US-09-007-227-1	Sequence 1, Appli
c 19	15	100.0	15	2	US-09-007-227-4	Sequence 4, Appli
20	15	100.0	15	3	US-08-910-632-81	Sequence 81, Appl
21	15	100.0	15	4	US-08-687-421-189	Sequence 189, App
22	15	100.0	15	4	US-09-017-974-53	Sequence 53, Appl
23	15	100.0	15	4	US-09-429-130-53	Sequence 53, Appl
24	15	100.0	15	5	PCT-US94-00896-1	Sequence 1, Appli
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26	15	100.0	15	5	PCT-US95-11985A-21	Sequence 21, Appl
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31	15	100.0	17	1	US-08-484-192-118	Sequence 118, App
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c 42	15	100.0	39	2	US-09-007-227-3	Sequence 3, Appli
43	15	100.0	40	4	US-09-287-936-6	Sequence 6, Appli
44	15	100.0	44	1	US-08-703-755A-7	Sequence 7, Appli
45	14	93.3	15	1	US-08-484-192-35	Sequence 35, Appl

ALIGNMENTS

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RESULT   1
US-07-973-333-1
; Sequence 1, Application US/07973333
; Patent No. 5476766
;  GENERAL INFORMATION:
;    APPLICANT:  Larry Gold
;    APPLICANT:  Diane Tasset
;    TITLE OF INVENTION:  Ligands of Thrombin
;    NUMBER OF SEQUENCES:  26
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Beaton & Swanson, P.C.
;      STREET:  4582 South Ulster Street Parkway, Suite#
;      STREET:  403
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80237
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 5.25 inch, 360 Kb storage
;      COMPUTER:  IBM compatible
;      OPERATING SYSTEM:  MS-DOS
;      SOFTWARE:  WordPerfect 5.1
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/07/973,333
;      FILING DATE:  19921106
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:  none
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Barry J. Swanson
;      REGISTRATION NUMBER:  33,215
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 850-9900
;      TELEFAX:  (303) 850-9401
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  NUCLEIC ACID
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-07-973-333-1


  Query Match           100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity  100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15
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RESULT  2
US-08-219-012-1
; Sequence 1, Application US/08219012
; Patent No. 5543293
;  GENERAL INFORMATION:
;    APPLICANT:  Larry Gold
;    APPLICANT:  Diane Tasset
;    TITLE OF INVENTION:  Ligands of Thrombin
;    NUMBER OF SEQUENCES:  92
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Beaton & Swanson, P.C.
;      STREET:  4582 South Ulster Street Parkway, Suite #
;      STREET:  403
;      CITY:  Denver
;      STATE:  Colorado
;      COUNTRY:  USA
;      ZIP:  80237
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette, 5.25 inch, 360 Kb storage
;      COMPUTER:  IBM compatible
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;      SOFTWARE:  WordPerfect 5.1
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;      APPLICATION NUMBER:  US/08/219,012
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:  none
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Barry J. Swanson
;      REGISTRATION NUMBER:  33,215
;      REFERENCE/DOCKET NUMBER:
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (303) 850-9900
;      TELEFAX:  (303) 850-9401
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-219-012-1


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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db       1 GGTTGGTGTGGTTGG 15


RESULT  3
US-08-376-329-1
; Sequence 1, Application US/08376329
; Patent No. 5641629
;  GENERAL INFORMATION:
;    APPLICANT:  Pitner, James B
;    APPLICANT:  Malinowski, Douglas P
;    APPLICANT:  Vonk, Glenn P
;    APPLICANT:  Gold, Larry
;    TITLE OF INVENTION:  Spectroscopically Detectable Nucleic
;    TITLE OF INVENTION:  Acid Ligands
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Richard J. Roderick, Becton Dickinson and
;      ADDRESSEE:  Company
;      STREET:  1 Becton Drive
;      CITY:  Franklin Lakes
;      STATE:  NJ
;      COUNTRY:  USA
;      ZIP:  07417-1880
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/376,329
;      FILING DATE:
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highet, David W
;      REGISTRATION NUMBER:  30,265
;      REFERENCE/DOCKET NUMBER:  P-3126
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  201 847 5317
;      TELEFAX:  201 848 9228
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-376-329-1


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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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           |||||||||||||||
Db       1 GGTTGGTGTGGTTGG 15


RESULT  4
US-08-276-271-1
; Sequence 1, Application US/08276271
; Patent No. 5650275
;  GENERAL INFORMATION:
;    APPLICANT:  Pitner, James B
;    APPLICANT:  Malinowski, Douglas P
;    APPLICANT:  Vonk, Glenn P
;    APPLICANT:  Gold, Larry
;    TITLE OF INVENTION:  Spectroscopically Detectable Nucleic
;    TITLE OF INVENTION:  Acid Ligands
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Richard J. Roderick, Becton Dickinson and
;      ADDRESSEE:  Company
;      STREET:  1 Becton Drive
;      CITY:  Franklin Lakes
;      STATE:  NJ
;      COUNTRY:  USA
;      ZIP:  07417-1880
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/276,271
;      FILING DATE:
;      CLASSIFICATION:  436
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highet, David W
;      REGISTRATION NUMBER:  30,265
;      REFERENCE/DOCKET NUMBER:  P-3126
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  201 847 5317
;      TELEFAX:  201 848 9228
;  INFORMATION FOR SEQ ID NO:  1:
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;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-276-271-1


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  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15


RESULT   5
US-08-539-516-4
; Sequence 4, Application US/08539516
; Patent No. 5658738
; GENERAL INFORMATION:
;    APPLICANT:  Nadeau, James G.
;    APPLICANT:  Ciolkowski, Mary Lee
;    APPLICANT:  Vogler, Erwin A.
;    TITLE OF INVENTION:  BI-DIRECTIONAL OLIGONUCLEOTIDES THAT
;    TITLE OF INVENTION:  BIND PROTEIN
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Richard J. Rodrick, Becton Dickinson and
;      ADDRESSEE:  Company
;      STREET:  1 Becton Drive
;      CITY:  Franklin Lakes
;      STATE:  NJ
;      COUNTRY:  US
;      ZIP:  07417
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/539,516
;      FILING DATE:  11-DEC-1995
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/614,447
;      FILING DATE:  12-MAR-1996
;      APPLICATION NUMBER:  US 08/252,071
;      FILING DATE:  31-MAY-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highet, David W.
;      REGISTRATION NUMBER:  30,265
;      REFERENCE/DOCKET NUMBER:  P-3028
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 847-5317
;      TELEFAX:  (201) 848-9228
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-539-516-4


  Query Match             100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          ||||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT   6
US-08-614-447-4
; Sequence 4, Application US/08614447
; Patent No. 5668265
; GENERAL INFORMATION:
;    APPLICANT:  Nadeau, James G.
;    APPLICANT:  Ciolkowski, Mary Lee
;    APPLICANT:  Vogler, Erwin A.
;    TITLE OF INVENTION:  BI-DIRECTIONAL OLIGONUCLEOTIDES THAT
;    TITLE OF INVENTION:  BIND PROTEIN
;    NUMBER OF SEQUENCES:  4
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Richard J. Rodrick, Becton Dickinson and
;      ADDRESSEE:  Company
;      STREET:  1 Becton Drive
;      CITY:  Franklin Lakes
;      STATE:  NJ
;      COUNTRY:  US
;      ZIP:  07417
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/614,447
;      FILING DATE:  12-MAR-1996
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/252,071
;      FILING DATE:  31-MAY-1994
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highet, David W.
;      REGISTRATION NUMBER:  30,265
;      REFERENCE/DOCKET NUMBER:  P-3028
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (201) 847-5317
;      TELEFAX:  (201) 848-9228
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  DNA (genomic)
US-08-614-447-4


  Query Match             100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15


RESULT   7
US-08-703-755A-3
; Sequence 3, Application US/08703755A
; Patent No. 5691145
; GENERAL INFORMATION:
;    APPLICANT:  Pitner, Bruce
;    APPLICANT:  Vonk, Glenn P.
;    APPLICANT:  Nadeau, James G.
;    TITLE OF INVENTION:  DETECTION OF NUCLEIC ACIDS USING
;    TITLE OF INVENTION:  G-QUARTETS
;    NUMBER OF SEQUENCES:  7
;    CORRESPONDENCE ADDRESS:
```

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;       ADDRESSEE:  Richard J. Rodrick, Becton Dickinson and
;       ADDRESSEE:  Company
;       STREET:  1 Becton Drive
;       CITY:  Franklin Lakes
;       STATE:  NJ
;       COUNTRY:  US
;       ZIP:  07417
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/703,755A
;       FILING DATE:
;       CLASSIFICATION:  435
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  Fugit, Donna R.
        REGISTRATION NUMBER:  32,135
        REFERENCE/DOCKET NUMBER:  P-3376
    INFORMATION FOR SEQ ID NO:  3:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  15 base pairs
;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
US-08-703-755A-3


  Query Match             100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT   8
US-08-484-192-29
; Sequence 29, Application US/08484192
; Patent No. 5756291
;  GENERAL INFORMATION:
;     APPLICANT:  GRIFFIN, LINDA C.
;     APPLICANT:  ALBRECHT, GLENN
;     APPLICANT:  LATHAM, JOHN
      APPLICANT:  LEUNG, LAWRENCE
      APPLICANT:  VERMAAS, ERIC
      APPLICANT:  TOOLE, JOHN J.
;     TITLE OF INVENTION:  APTAMERS SPECIFIC FOR BIOMOLECULES AND
;     TITLE OF INVENTION:  METHODS OF MAKING
;     NUMBER OF SEQUENCES:  181
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  MORRISON & FOERSTER
;       STREET:  755 PAGE MILL ROAD
;       CITY:  PALO ALTO
;       STATE:  CALIFORNIA
;       COUNTRY:  USA
;       ZIP:  94304
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/484,192
;       FILING DATE:
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/934,387
;       FILING DATE:  21-AUG-1992
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  GRACEY, NANCY J.
;       REGISTRATION NUMBER:  28,216
;       REFERENCE/DOCKET NUMBER:  246102002221
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  415-813-5600
;       TELEFAX:  415-494-0792
;       TELEX:  706141
;   INFORMATION FOR SEQ ID NO:  29:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  15 base pairs
;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
US-08-484-192-29


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  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
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Db      1 GGTTGGTGTGGTTGG 15


RESULT   9
US-08-484-192-31
; Sequence 31, Application US/08484192
; Patent No. 5756291
;  GENERAL INFORMATION:
;     APPLICANT:  GRIFFIN, LINDA C.
;     APPLICANT:  ALBRECHT, GLENN
;     APPLICANT:  LATHAM, JOHN
;     APPLICANT:  LEUNG, LAWRENCE
;     APPLICANT:  VERMAAS, ERIC
;     APPLICANT:  TOOLE, JOHN J.
;     TITLE OF INVENTION:  APTAMERS SPECIFIC FOR BIOMOLECULES AND
;     TITLE OF INVENTION:  METHODS OF MAKING
;     NUMBER OF SEQUENCES:  181
;     CORRESPONDENCE ADDRESS:
;       ADDRESSEE:  MORRISON & FOERSTER
;       STREET:  755 PAGE MILL ROAD
;       CITY:  PALO ALTO
;       STATE:  CALIFORNIA
;       COUNTRY:  USA
;       ZIP:  94304
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/08/484,192
;       FILING DATE:
;       CLASSIFICATION:  435
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/934,387
;       FILING DATE:  21-AUG-1992
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  GRACEY, NANCY J.
;       REGISTRATION NUMBER:  28,216
;       REFERENCE/DOCKET NUMBER:  246102002221
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  415-813-5600
;       TELEFAX:  415-494-0792
;       TELEX:  706141
;   INFORMATION FOR SEQ ID NO:  31:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  15 base pairs
;       TYPE:  nucleic acid
;       STRANDEDNESS:  single
;       TOPOLOGY:  linear
;     FEATURE:
;       NAME/KEY:  misc_difference
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;      LOCATION:  replace(13..15, "")
;      OTHER INFORMATION:  /note= "These positions are thioate
;      OTHER INFORMATION:  (i.e., P(O)S) linked."
US-08-484-192-31


  Query Match             100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  10
US-08-484-192-32
; Sequence 32, Application US/08484192
; Patent No. 5756291
;  GENERAL INFORMATION:
;    APPLICANT:  GRIFFIN, LINDA C.
     APPLICANT:  ALBRECHT, GLENN
     APPLICANT:  LATHAM, JOHN
,    APPLICANT:  LEUNG, LAWRENCE
;    APPLICANT:  VERMAAS, ERIC
;    APPLICANT:  TOOLE, JOHN J.
;    TITLE OF INVENTION:  APTAMERS SPECIFIC FOR BIOMOLECULES AND
;    TITLE OF INVENTION:  METHODS OF MAKING
;    NUMBER OF SEQUENCES:  181
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 PAGE MILL ROAD
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  USA
;      ZIP:  94304
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/484,192
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/934,387
;      FILING DATE:  21-AUG-1992
     ATTORNEY/AGENT INFORMATION:
       NAME:  GRACEY, NANCY J.
       REGISTRATION NUMBER:  28,216
,      REFERENCE/DOCKET NUMBER:  246102002221
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-813-5600
;      TELEFAX:  415-494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  32:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    FEATURE:
;      NAME/KEY:  misc_difference
;      LOCATION:  replace(1..15, "")
;      OTHER INFORMATION:  /note= "These positions are thioate
;      OTHER INFORMATION:  (i.e., P(O)S) linked."
US-08-484-192-32


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  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  11
US-08-484-192-36
; Sequence 36, Application US/08484192
; Patent No. 5756291
;  GENERAL INFORMATION:
;    APPLICANT:  GRIFFIN, LINDA C.
;    APPLICANT:  ALBRECHT, GLENN
;    APPLICANT:  LATHAM, JOHN
;    APPLICANT:  LEUNG, LAWRENCE
;    APPLICANT:  VERMAAS, ERIC
;    APPLICANT:  TOOLE, JOHN J.
;    TITLE OF INVENTION:  APTAMERS SPECIFIC FOR BIOMOLECULES AND
;    TITLE OF INVENTION:  METHODS OF MAKING
;    NUMBER OF SEQUENCES:  181
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 PAGE MILL ROAD
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  USA
;      ZIP:  94304
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/484,192
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/934,387
;      FILING DATE:  21-AUG-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  GRACEY, NANCY J.
;      REGISTRATION NUMBER:  28,216
;      REFERENCE/DOCKET NUMBER:  246102002221
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-813-5600
;      TELEFAX:  415-494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  36:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    FEATURE:
;      NAME/KEY:  misc_difference
;      LOCATION:  replace(3..4, "")
;      OTHER INFORMATION:  /note= "This is a formacetal
;      OTHER INFORMATION:  linkage."
US-08-484-192-36


  Query Match             100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  12
US-08-484-192-37
; Sequence 37, Application US/08484192
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; Patent No. 5756291
; GENERAL INFORMATION:
;   APPLICANT: GRIFFIN, LINDA C.
;   APPLICANT: ALBRECHT, GLENN
;   APPLICANT: LATHAM, JOHN
;   APPLICANT: LEUNG, LAWRENCE
;   APPLICANT: VERMAAS, ERIC
;   APPLICANT: TOOLE, JOHN J.
;   TITLE OF INVENTION: APTAMERS SPECIFIC FOR BIOMOLECULES AND
;   TITLE OF INVENTION: METHODS OF MAKING
;   NUMBER OF SEQUENCES: 181
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE: MORRISON & FOERSTER
;     STREET: 755 PAGE MILL ROAD
;     CITY: PALO ALTO
;     STATE: CALIFORNIA
;     COUNTRY: USA
;     ZIP: 94304
    COMPUTER READABLE FORM:
      MEDIUM TYPE: Floppy disk
      COMPUTER: IBM PC compatible
;     OPERATING SYSTEM: PC-DOS/MS-DOS
;     SOFTWARE: PatentIn Release #1.0, Version #1.25
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER: US/08/484,192
;     FILING DATE:
;     CLASSIFICATION: 435
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER: US 07/934,387
;     FILING DATE: 21-AUG-1992
;   ATTORNEY/AGENT INFORMATION:
;     NAME: GRACEY, NANCY J.
;     REGISTRATION NUMBER: 28,216
;     REFERENCE/DOCKET NUMBER: 246102002221
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE: 415-813-5600
;     TELEFAX: 415-494-0792
;     TELEX: 706141
; INFORMATION FOR SEQ ID NO: 37:
;   SEQUENCE CHARACTERISTICS:
;     LENGTH: 15 base pairs
;     TYPE: nucleic acid
;     STRANDEDNESS: single
;     TOPOLOGY: linear
;   FEATURE:
;     NAME/KEY: misc_difference
;     LOCATION: replace(12..13, "")
;     OTHER INFORMATION: /note= "This is a formacetal
;     OTHER INFORMATION: linkage."
US-08-484-192-37


  Query Match           100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity  100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT 13
US-08-484-192-38
; Sequence 38, Application US/08484192
; Patent No. 5756291
; GENERAL INFORMATION:
;   APPLICANT: GRIFFIN, LINDA C.
;   APPLICANT: ALBRECHT, GLENN
;   APPLICANT: LATHAM, JOHN
;   APPLICANT: LEUNG, LAWRENCE
;   APPLICANT: VERMAAS, ERIC
;   APPLICANT: TOOLE, JOHN J.
;   TITLE OF INVENTION: APTAMERS SPECIFIC FOR BIOMOLECULES AND
;   TITLE OF INVENTION: METHODS OF MAKING
;   NUMBER OF SEQUENCES: 181
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE: MORRISON & FOERSTER
;     STREET: 755 PAGE MILL ROAD
;     CITY: PALO ALTO
;     STATE: CALIFORNIA
;     COUNTRY: USA
;     ZIP: 94304
;   COMPUTER READABLE FORM:
;     MEDIUM TYPE: Floppy disk
;     COMPUTER: IBM PC compatible
;     OPERATING SYSTEM: PC-DOS/MS-DOS
;     SOFTWARE: PatentIn Release #1.0, Version #1.25
;   CURRENT APPLICATION DATA:
;     APPLICATION NUMBER: US/08/484,192
;     FILING DATE:
;     CLASSIFICATION: 435
;   PRIOR APPLICATION DATA:
;     APPLICATION NUMBER: US 07/934,387
;     FILING DATE: 21-AUG-1992
;   ATTORNEY/AGENT INFORMATION:
;     NAME: GRACEY, NANCY J.
;     REGISTRATION NUMBER: 28,216
;     REFERENCE/DOCKET NUMBER: 246102002221
;   TELECOMMUNICATION INFORMATION:
;     TELEPHONE: 415-813-5600
;     TELEFAX: 415-494-0792
;     TELEX: 706141
; INFORMATION FOR SEQ ID NO: 38:
;   SEQUENCE CHARACTERISTICS:
;     LENGTH: 15 base pairs
;     TYPE: nucleic acid
;     STRANDEDNESS: single
;     TOPOLOGY: linear
;   FEATURE:
;     NAME/KEY: misc_difference
;     LOCATION: replace(3..4, "")
;     OTHER INFORMATION: /note= "This is a formacetal
;     OTHER INFORMATION: linkage."
;   FEATURE:
;     NAME/KEY: misc_difference
;     LOCATION: replace(12..13, "")
;     OTHER INFORMATION: /note= "This is a formacetal
;     OTHER INFORMATION: linkage."
US-08-484-192-38


  Query Match           100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity  100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT 14
US-08-484-192-79
; Sequence 79, Application US/08484192
; Patent No. 5756291
; GENERAL INFORMATION:
;   APPLICANT: GRIFFIN, LINDA C.
;   APPLICANT: ALBRECHT, GLENN
;   APPLICANT: LATHAM, JOHN
;   APPLICANT: LEUNG, LAWRENCE
;   APPLICANT: VERMAAS, ERIC
;   APPLICANT: TOOLE, JOHN J.
;   TITLE OF INVENTION: APTAMERS SPECIFIC FOR BIOMOLECULES AND
;   TITLE OF INVENTION: METHODS OF MAKING
;   NUMBER OF SEQUENCES: 181
;   CORRESPONDENCE ADDRESS:
;     ADDRESSEE: MORRISON & FOERSTER
```

```
;      STREET:  755 PAGE MILL ROAD
;      CITY:  PALO ALTO
;      STATE:  CALIFORNIA
;      COUNTRY:  USA
;      ZIP:  94304
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/484,192
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/934,387
;      FILING DATE:  21-AUG-1992
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  GRACEY, NANCY J.
;      REGISTRATION NUMBER:  28,216
;      REFERENCE/DOCKET NUMBER:  246102002221
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-813-5600
;      TELEFAX:  415-494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  79:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    FEATURE:
;      NAME/KEY:  misc_difference
;      LOCATION:  replace(13..15, "")
;      OTHER INFORMATION:  /note= "These positions are linked
;      OTHER INFORMATION:  by thioate internucleotide linkages."
US-08-484-192-79


  Query Match           100.0%;  Score 15;  DB 1;  Length 15;
  Best Local Similarity  100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


RESULT  15
US-08-237-973-19
; Sequence 19, Application US/08237973
; Patent No. 5840867
;  GENERAL INFORMATION:
;    APPLICANT:  TOOLE, JOHN J.
;    APPLICANT:  LATHAM, JOHN
;    APPLICANT:  BOCK, LOUIS C.
;    APPLICANT:  GRIFFIN, LINDA C.
;    TITLE OF INVENTION:  APTAMER ANALOGS SPECIFIC FOR
;    TITLE OF INVENTION:  BIOMOLECULES
;    NUMBER OF SEQUENCES:  62
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  MORRISON & FOERSTER
;      STREET:  755 Page Mill Road
;      CITY:  Palo Alto
;      STATE:  CA
;      COUNTRY:  USA
;      ZIP:  94304-1018
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/237,973
;      FILING DATE:
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,921
;      FILING DATE:  06-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  GRACEY, NANCY J.
;      REGISTRATION NUMBER:  28,216
;      REFERENCE/DOCKET NUMBER:  24610-20032.21
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (415) 813-5600
;      TELEFAX:  (415) 494-0792
;      TELEX:  706141
;  INFORMATION FOR SEQ ID NO:  19:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  15 base pairs
;      TYPE:  nucleic acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
US-08-237-973-19


  Query Match           100.0%;  Score 15;  DB 2;  Length 15;
  Best Local Similarity  100.0%;  Pred. No. 48;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 ggttggtgtggttgg 15
          |||||||||||||||
Db      1 GGTTGGTGTGGTTGG 15


Search completed:  June  6, 2002, 16:04:32
Job time:  1893 sec
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